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Rev. Olympia Brown
with best Christmas wishes
from her oldtime friend
Antoinette Brown Blackwell.
Dec. 1914.
Elizabeth,
N. J.

THE MAKING OF THE UNIVERSE

EVOLUTION THE CONTINUOUS PROCESS WHICH DERIVES THE FINITE FROM THE INFINITE

BY

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I

THE GENERAL OUTLOOK

A CURIOUS trait of human nature sometimes leads those who have taken progressive steps in advance of their times to halt there, as determined not to move or even to look beyond that fixed position. All changes compel readjustments; they usually take up that needed task and we bid them Godspeed.

Nature very generally does work in repeated cycles and its general process is a local wave, a throb or pulse of equal action and reaction — the two sides of one process in which neither side gains or loses in quantity of force, of energy, though each may receive from the other a mingling of their unlike modes, which gives to each some small advance in modified ways of energizing.

Force — the innate power in all essence or substance of being — is one and as indivisible as substance itself, which, in its many phases, is certainly an unbroken continuity; but the modes of force are

not only to us inconceivably numerous, but are steadily increasing by means of exchanged modes, when unlike, but equal, energies coöperate. This means that force never halts; it is either working onwards or backwards, or is repeating internal actions and reactions.

Force is Nature's one, and the only one, ever-impelling power, and the immediate cause of all changes, modifications of every variety, innate in every known substance and process.

Another human trait is that of practical trust in one's direct perceptions. Certain beliefs of utmost moment are impossible to be proved (at the time) by enough unmistakable evidence to make it impossible to doubt them — as impossible as it now is to doubt whether or not this earth is a part of our solar system, that every day it revolves on its axis, and every year sweeps on in its orbit around the sun, or that its method in doing all of these things and in producing all lesser changes is that of direct internal coöperation between such allied modes as are necessarily involved. That practical trust is justified.

Gravitation apparently includes one mode or class of action which remains a common active property; other modes are local through coöperations of uniting opposite action and reaction.

Of course, without expectation or hope of success in a given field, where nothing is attempted nothing

is gained by personal effort.

It is well known that it was claimed, we never could know what other worlds were made of in actual material substance. Like a mocking echo of that prediction, the spectroscope disproved it; affirmed beyond question that all of the worlds yet tested are composed of about the same substances as our own earth. Evolution has not one real halting place and finite knowledge is one phase of evolution.

But our minds are finite, it is claimed; we can never know the infinite in its fullness of infinity; we are relative beings, how should we know the Absolute? As well expect a baby to comprehend the reasoning of Immanuel Kant or Sir Isaac Newton.

Exactly. For one, I fully admit the cogency of that claim; but the universe is not infinite, neither are any nor all of Nature's factors any nor all actual or potential modifications of infinite force or finite changes actual or potential.

All material forces are measurable in their extents, also in the efficiency of their working power, to anyone who can get the right points of view and enough knowledge of the right kind to measure them, interpret the kind of work done, and comprehend the coöperative, finite methods.

Kant and Newton as babies could as little have comprehended themselves as discoverers and reveal-

ers of self-evident truth as the dullest Hottentot baby in existence. Doubtless infinite knowledge will never be won by finiteness; but who will prove or will furnish us with one glimpse of a probability that any finite truth is beyond correlated finite comprehension?

By many-sided methods the finite does positively and unmistakably reveal some of the actual qualities of the infinite and absolute. It can do this because, in a limited way, human intelligence is akin to Divine intelligence, limited forces to absolute force, limited constructiveness to unlimited constructedness.

For example, all man-made machines — from the earthen platters and rounded bowls, and the sharpened flints which primitive mankind invented, to the marvelous machines in which men now so adapt each moving part to every other — each part to move in exactly the way it was intended to work, in which each part does exactly what it was made to do, and does it automatically in perfect order of time and arrangement as the constructors intended the work in its many sidedness to be done, until by repetitions of the same process in kind each now completes that particular section of the total of finite creative process.

The point here is that finite inventiveness with its limitations is akin to infinite inventiveness without limitations.

Both are exclusively mind work, are thought work embodied in essential being; in all mechanisms the purpose is embodied in the machine produced. The thought scheme is so literally expressed by the correlations between the several parts of the machine that any stranger to a new machine, but familiar with other machinery, could comprehend the working and the purpose, the thought intention of the new invention.

Every mechanism, however nearly simple or manifold in complexity, is a realized product of thought correlations.

Mind's purpose is visibly correlated in matter; in matter of one kind, as in a steel needle; of many and various kinds in a Panama Canal; any mind educated in that direction can translate the thought embodied into his own thought. The material embodiment or its equivalent intervenes between the thinker and the interpreter; but thought-correlation is one, whether the process is infinite or finite.

My unqualified claim is that the entire inorganic universe, an unlimitedly complex mechanism, is literally a thought scheme — one process definitely and clearly innate in the universe; that any mind which has progressively advanced enough in the right direction can reinterpret the thought, can with absolute assurance declare it to be a thought product, and looking as far as may be over the almost infinite varied range, realizing that no failure has

been found in the perfection of the least detail, nor in the total, can insist with no shadow of hesitation that the Author of this universe is, must be, Infinite Mind.

Thought in its essential nature is personal activity. All activity is some mode of force. Force can be shown to have no self direction. In Infinite Mind it must be the infinite force of infinite Mind and Mind directed. In automatic machinery, correlated by limited minds, we know that the correlations in the machine direct the applied forces. The wheel revolves, the dredge scoops up the earth, the loom weaves the cloth, etc.

Science has also taught us beyond question that the laws of matter are the active unchanging properties of matter; we can depend upon them in perfect assurance. If we try to escape them, we fail; if we work with them, we succeed. But we should keep in mind that the laws of Nature are the nature of Nature, and that Nature in its legitimate, most comprehensive sense is synonymous with the universe, and includes life, mind, soul, spirit, also the organic world. Nature is the relative in mode in distinction from the absolute, the limited from the unlimited, the created from the Uncreated and Ever-existing in modes of process, not in substance.

Being, mind or matter, cannot be created, cannot be even thought of as created, because, as the changeless essential something, it is everything; to

produce it, would be to produce something from nothing.

Essence, substance, in its primary sense of persistence, existence, whether absolute being or relative being, cannot be created.

The universe is a derivative of absolute Being, lowered, limited, and made relative in all of its processes by limiting correlations of a kind which define or mark off by structure each new unit of being as a unit external from every other like unit; none of them are or can be external to infinite Beings, nor are they changed in essential Being, but changed in all of their correlated processes — the correlations of each one pertaining exclusively to itself even though working in mutual correlations.

The entire consciousness of each (if it has consciousness) must be an intact personal consciousness, while its substance remains an undivided part and parcel of absolute Being and its absolute properties.

Each new being thinks, feels, acts for itself; all of its changes are its very own, and yet every phase of these related processes must be a double-sided phase of coöperation.

On my theory, Creation is a working thought-scheme, is applied correlation. The entire method, marvelous and complex as it is in its productive correlations, is as simple as an alphabet after one has learned it, and learned how to apply it to some

small extent.

Like an alphabet, it may or may not have been completed as a scheme when the total of Primary or least units of the universe were conditioned; but in usage correlation, like language and ideas, is endlessly progressive by new combinations.

The present Essay is an attempt briefly to state an hypothesis which tries to explain some of the past, well-known, admitted, leading facts and methods of the universe, gathered up by astronomers, geologists and other historians. It is itself a summing up of the theory of a longer book, as this one seems better suited to the over-busy, unsettled, present times. The theory itself is a modification of various prior philosophies. Time and space seem never to have made room for me to acknowledge such debts; but I have borrowed freely from every available source and have never scrupled at modifying any opinion which seemed suited to the process of assimilation. It is certainly one's duty to offer others only what one thoroughly believes or hopes with full conviction.

With most modern thinkers we may each make our own personal experience, our own thoughts, perceptions, emotions — tested and verified in many convincing ways — the basis of unquestioned present knowledge. Consciousness affirms, "all this is my consciousness, is my living own individual world; these successive experiences exist, then I exist."

You think and feel, then you exist.

Our essential being remains, persists unchanged — we sleep and wake, but an unbroken consciousness still affirms, "This is myself, I am awake, I live, I am here, one indivisible myself, the same yesterday and to-day."

No one ever doubted that conscious self-affirmation "except a philosopher." Many philosophers have doubted it in a subtle phase of theory; but not one ever did so in practice.

Practice is practical whether its theory is good or bad. Our ancestors, who still believed the earth to be the center of the universe, so long as they could believe that, were as safe and comfortable as the better instructed of to-day. It is only when there are enough attained certainties, tested and demonstrated facts — which wait to have theory come abreast with them, arrange them in orderly sequence and prove that everything works, must work in correlation, in practical coördination — that lop-sided thought relationing becomes possible but needless.

For instance, while unity of being is self-affirmed, the succession of all phases of experience, of all activities, of all changes, all known progressions of every kind are equally self-affirmed. The really known, the satisfactorily accepted of any mind, testifies of itself, for itself, at least up to that practical point; and there is no conflict between theory and practice.

Now we all know that actions arise in succession following successions, pulses of action and reaction. As all action in the finite is double-sided coöperation, it is so constituted that everywhere there is a local beat, a cycle of varying types, dimensions and forms in motion, and the equivalent in conscious action which might be called pulses or throbs of thought. The mind cannot hold itself to one phase of thought or feeling of any kind; it thinks to and fro, relating one phase to another, whether of reasoning or of emotion.

Physical science calls these sections of action waves, and it has been able to measure many of those not interfered with too much from without, like waves in the different rays of light. This sectional wave is a progress; but it is not the continuous ongoing of process. The waves are like the loops of a chain, they move out, meet again, and repeat the process; but all the time there is a steady ongoing. The steps taken in walking are another illustration. Each step, with its ascent and descent, is the local wave. The steadying effect of motion to the bicyclist and to the car moving on one track, are both due to this local balancing of ongoing motion.

Our theory interprets it as an organically produced cause and effect in the interest of equilibrium; its perfect balance in all processes must be secured, otherwise motion could not be continually read-

justed. The puffs of a halted steam engine are another example; heavy pressure of steam sends up a long column; as the pressure becomes exhausted, the column lowers; the energy is the sooner absorbed by the atmosphere; the radiating motion is widely scattered, but it is not destroyed. Energy is neither created nor destroyed.

A modification of energy is never a destruction of force, and the use of any one mode of energizing, even if it seems to exhaust the possessor of it, leads towards its reproduction, until the habitual use becomes almost automatic. Habits, good or bad, are hard to change, and all active repetitions become habits.

Substance and force, unconvertibly unlike, are yet one and inseparable, both exist from everlasting to everlasting as active; and in the action, in the finite, is the unending outcome equally everlasting.

The name Substance is used in two widely different senses, the dominant one representing the changelessness of essential Being, the other changed structure, produced by different coöperation. Substance in itself is not changed in the finite.

Our theory explains Creation to be a relative process produced by correlating non-relative processes, making a correlated process from thence onward with its ever-varying and increasing modes, the total of all finite accumulating activity. Correlation is the adaptation of unlike processes of

force equal in amounts. When brought into contact or the equivalent of contact, impelling force blends them into a unity of action; and when they separate, each substance may have gained a modified mode of force but with no gain in amount of force. The new finite substance may or may not have been structurally modified, that being dependent upon kind of unions. If a chemical combining the structure is modified, otherwise probably not; they simply unite their unlike energizings and parts, each perhaps with slight gain in variety of action.

When the chemical union is dissolved, the structural, combined properties also cease. In either case, to our human senses the gain to process like this cannot be appreciated in detail, but neither can we appreciate any direct process of growth, although the mass effect is plain enough later.

We not only recognize our own conscious processes, but as the subject we recognize objects perceived. Constitutionally we are at once individual and social. All phases of our amazingly complex activities work together in correlation.

Doubtless the Infinite transcends the finite. God's energies and modes of action measurelessly transcend relative activities, and it is solely His energy at work in the universe, but He has given of His own force to each unit of Nature to be used by itself exclusively; and has so constituted each primary unit, in and by itself, that, if our theory is

right in this claim, no other coworker can diminish or increase the amount of force bestowed. The increase is increase of modes, of progressive heterogeneity of substance (that is, of structure in the substance), and of variety in action, whether action is material, mental, or psycho-physical.

And doubtless the Creator does not interfere with His own constructive scheme. His coöperation must work in accord with Nature and its processes.

So far as human knowledge has reached, everything in and of Nature has done whatever it has done of itself exclusively, even in all copartnerships. That was so ordered constitutionally.

The claim that Deity manifests Himself and His energizing in Nature, is true in the highest and broadest sense; but it is not literally true as a direct statement of fact. He has devised a distinct system of inter-activities, a definite method evolutionary in its inherent ongoing; within its limits all finite activity must confine itself, and for the work done each actor acts for itself does and must accept the outreaching results.

This is as true of the automata as it is of life and minds. Knowledge has been increasing since the beginning of relative life and minds. Knowledge is so large and on-going in its nature that the entire constitution of things has been as perfectly adapted to spread it widely and effectively as correlative action itself has been also constituted social

and widely pervasive. Knowledge is catching, but there are refined methods of communicating and all other processes of all sorts are adapted to work in coördination.

Creation is a boundless and endless adaptation of coworking methods. Every invention is a new correlation.

There is latitude for doing this or that, for going on or going backwards, and for standing as wrestlers may with every muscle strained in action, yet in apparent rest. In general, knowledge, though accepted as right and reasonable, is often more a belief than tested knowledge. Current public opinion is apt to be of that type, in part. In an unsettled state of opinions like the present time, where old supports have failed but new ones not yet firmly placed in the minds of the majority, verification is probably lagging behind the stated and partially accepted conclusions.

The need of to-day seems to be the search after the stable foundations which certainly exist. Truth is never afloat. Like all growing things it is planted in substantial reality and must be sought for from its roots upward. The feeblest effort in that direction must be of some benefit, at least to itself.

II

CREATION AS A CORRELATED PROCESS

HISTORY teaches us that the earliest instinct or inference of mankind taught them to believe in their dependence upon conscious Power higher than themselves. That belief was, and is, the basis of all religions. Instead of becoming outgrown with the increase of knowledge, it has been widening and rising into a confirmed assurance that this Power is supreme Mind, God, until there is almost universal acceptance of the stupendous certainty that essential existence, mind or matter, must have been ever existent.

That the essence or substance (synonymous terms) of actual Being could be created is discredited, is unthinkable, and is not believed by anyone who has seriously investigated this impossibility.

But science is practically based upon a concrete belief in substance material, or mental, or both, and very largely the dealings of science are with the material side of things.

Science treats its substances as actors doing their own work; it follows and describes their processes and the obtained results; its tests, its comparative

verifications are generally substantive. Hence, science is more or less inclined towards materialism. It was in the past much more than it is in the present.

A correlated process is equal and opposed action and reaction, in which modes of energizing may be mutually exchanged without change in the amount of force on either side, but with increase of modes and their resulting values on both sides — thus guaranteeing an ever-advancing variety of desirable acquirements.

This theory claims that it is a possible explanation of the method by which the Creator literally might have evolved the existing universe, material and mental; that the accepted facts of progressive Nature can be fairly interpreted by this theory to be actual derivatives from the absolute of the relative; of limited and lowered individual beings from the ever-existing One, the unlimited, all-comprehending, eternal Unity.

Process, as a total, is continuous and unending, but it coöperates in the relative as local, temporary pulses or waves of action and reaction, and some of its results move onward in endless threads of changes. Hence, for illustration, when a ball rebounds from a wall, this reaction has not used up the sending force; the correlative method of coöperation has resulted in more or less scattering and awakening of vibratory action of several varieties

in the general environment. The coöperators have not lost or gained in quantity of force and have gained in quality, in advancing modifications of process. It is the nature of all opposite uniting actions of all kinds to multiply, modify varieties of the kinds to which the actions belong.

The general tendency has been to assume that the Creator of the universe has Himself directly done the main part of the work of universe-makings. As Author, yes; as immutable builder, no.

The present Essay claims that essential Being is, as generally believed, ever-existing Mind; that the wisdom and good will of omniscient Mind devised, put in coöperation, sustains and aids in some definite way and degree, often directs or inspires and coöperates with the creative process which has been in age-long interaction and is destined to continue everlastingly. The act of creation produced a correlated process which internally, persistently, indivisibly individualizes every primary or least unit of the whole universe.

In other words, every least unit of Nature has an added, an imposed innate correlation, which structurally conditions it as a relative, individualized being. The countless myriads of relative least units of Nature have like constitutions. Each unit is (from the nature of its constitution) innately balanced, self-active and self-defensive; but it is also lowered, limited, and, for all fruitful action, is con-

stitutionally dependent upon coöperation with its peers, having like finite constitutions.

All fruitful finite action, of all kinds, is coöperation, interaction; and yet every unit acts of itself and for itself, its substance is ever-existing substance; its force is ever-existing force, while its modes are ever increasing.

Creation is thus a method of process; and as process in itself is ongoing and unending, so also is the method itself ongoing and unending. Finite beings, finite substance and force, remain in and of the absolute (although to all of their processes, whether motions which are modes of material process, or feelings modes of life and minds with their living consciousness), the processes are all finite coöperation.

There is nothing disturbing in the nature of process, which is a modification of the changing, not a modification of the permanent in Being, whether that being is limited or unlimited. In the ever-existing One, modifications — unrealizable by us because all of ours arise in correlations and are only half due to ourselves — in Deity must be independent, wholly self-evolved modifications of process.

In the nature of things, modifications of either type cannot interfere with essential existence or essential force, neither of which can be increased or diminished.

Force — itself never changing in amount, yet en-

tirely progressive in its inmost character — is the everlasting principle of acquirement, whether its activities are absolute or relative. This is the comprehensive but the bare cold statement of theory. Later I hope to be able to show the reasonableness of it as a theory, something of its internal consistency, and its ability to explain multitudes of Nature's leading facts. Doubtless, truth and untruth will be found together; but is there truth enough to make it worthy of serious attention? Nature is suspended in utter dependence upon absolute wisdom and good will; but until its correlations are annihilated it must remain everlastingly as to its individualities and their natural processes and as a universe with its ever-increasing accumulation of past motion and feeling of many types, whether for good or evil.

The making of the universe as it exists to-day is assured, whatever has been the method of its making; and the elements of its ongoing are still in progress for the production of good or evil. But surely the all together desirable will soon or late prevail.

The attempt to explain such infinite and intricate problems may seem preposterous. The "audacity of it" is recognized. The wise adage "fools rush in where angels fear to tread" has been taken to heart; but if head and heart are both enlisted, one must speak and take the consequences.

The shattered earlier religious creeds must find satisfactory new support for their later evolved modifications. As surely as God exists, they exist, waiting to be recognized, to become currently admitted.

Nature, the universe, mental and material, is and always has been humanity's first hand discovery of truth. No sincere effort, however inadequate, can be wholly worthless.

Is Force the efficient impelling principle in all activity? And is force inseparable from essential Being, Infinite and finite? Some conclusive answer to this problem is imperative, and conclusive if consistently solved. It is the key to the interpretation of Nature.

Force is an entity inseparable from essential existence. Then is the cutting off of process, the actual extinguishing of any process, the direct action of force,— a conceivable possibility? As we cannot think of force as a new created entity, as an actual something produced from another something or produced from nothing, so process, which is the function, the action of force, which, in the finite is the coöperation of unlike combining modes of action, must be equally indestructible *per se*. As phenomena, it melts into the no longer perceived through the senses. No mode of evolution is, no growth is, directly sense perceived. We recognize it only after its work is done; but insight into the

nature of relationships and thus inhering dependencies, jointly produced, and thus allied results impel us directly to the legitimate inference, to the only logical conclusion.

So long as force continues to be an inseparable property of the ever-existing substance of Being absolute and relative, all force-impelling activities must continue to take up new coöperations by the way; and by exchanging side-tracked energizing with adapted coworkers on any side widely and more widely scatter the vivifying of social active copartnerships.

III

THE RELATIVE MANYSIDEDNESS OF NATURE

THE universe is immensely complex. Its varieties of forms, sizes, properties of its substances, and still more the various phases of its innumerable processes, are so intricate and mutually interdependent that, starting from any one point of view a fairly consistent theory of related truth can be more or less reasonably maintained. It can explain varieties of related truths or partial truths. Truth is truth, even when mixed with error; but a half-truth may also lead to the most misleading untruths. Truth itself is complex.

The whole truth of anything would require every point of view internal and external of that one thing and all of its relationships and changings, in order to perfectly comprehend its whole nature and its functions. The whole truth of the universe would enlist outlook from all standpoints, and an intelligence able to unravel all complications and be able to reason in perfectly logical sequences. Humanity is still very far from having attained to that amount or perfection of knowledge (if it ever can

attain it), but surely it may be ever gaining undoubted truth. This includes the rejection of the interfering untruth. We know a practically unbroken gain of fully accepted knowledge as to the nature of Nature in many of its departments is truth verified in many different ways. For example: Can anyone fairly informed doubt that the earth is a member of our solar system, that its revolution on its own axis produces day and night, and that its circuit round the sun defines our year?

The unreasoned early view, judging from superficial appearances, had a stable fixed position for the earth and the sun traveling over it by day and under it by night.

It is evident that to gain unmixed truths not only eyesight for appearances is needed, but insight as well into the relations that exist between the things that appear. The relations of things cannot be perceived by means of any of the senses; but they can be perceived by that reasoning intelligence that may be termed insight. The concepts of insight are as easy of comprehension as are the perceptions of the senses.

For example: a straight line is the shortest distance between two points; or, reversing it, the shortest distance between two points is a straight line. That group of dependent relations, as relations, must be recognized by insight into the nature of the things. One must first know the nature of

points and of a straight line, then he is assured that it is a true proposition. The objection, that Nature has no straight lines, could in no way falsify that proposition. That the human hand cannot produce a straight line does not discredit it. But what are the direct lines of light that come through the ether, if they are not straight lines?

The truth of that statement of the two points is an internal relationship and expresses the necessary mutual relations between them. No possible intervention could change that or any other truths of natural relationships except by changes in the terms related, that is by changes in the things themselves.

Shut in as we are in our outlook through the senses, which are confined to one short, narrow strata of all-sided, almost infinite dimensions, mental insight into the relations of things, supplemented by reasoning (which is both inductive and deductive), often is, if passably well managed, more reliable than direct perception and immensely larger in outreach. The senses may blunder, may accept illusions. Insight perceives both the ideal, the real, and their inherent changeless and changing relationships, and when the idea and the actual coincide their truth cannot be doubted. The entire nature of finite mind is attuned by its correlativity with matter which is also made actual and finite through correlation.

It is only because physical Nature made its first appeal to dawning mental recognition that insight remained more tardy in self assertion than sight and became less precocious than sensation, practically is not yet largely used by all minds. Given their entire data, first principles, axioms, are at once stones in the foundation and keys in the rising arches of knowledge. As direct perceptions relations of true insight cannot be challenged by adequately intelligent criticism.

All abstract truths are truths of insight; they can be applied equally well to subjective ideas and to objectively embodied related constructive principles. Mental inferences have been wofully misleading so often in the past that they have been unjustly discredited, especially in popular comprehension. This is not the fault but the misfortune of pure insight. False premises do not lead to truthful conclusions. There must be first a knowledge of the things related, then insight undoubtedly can perceive their immaterial relationships. Relativity of mind is akin to all other actual relationships. The entire universe is bound together by its acquired relativities and its processes pure and simple, as process, as active ongoing and acquiring, are *bundles of immaterial activities* and thus strictly immaterial values.

The mathematical genius by insight literally sees the relativities of numbers, forms, and other relativi-

ties. Visible things and illustrative drawings may help the novice to comprehend the nature of interior correlations; natural or acquired intrinsic vision does not require that more primary type of assistance.

It is at least debatable whether too much educational simplifying may not tend to keep immature minds in an unwholesome dependence upon the senses and their objective tangible values.

The visible world and its votaries already live in that strata of being, often almost exclusively. Robberies and frauds of all kinds, and even respectable business, deal chiefly in tangible goods and their money symbols. Most temptations belong to that realm.

Church and State are becoming more and more separated (not now in governmental struggles for control), but deplorably in the individual and in the collective social consciousness. Mankind should not live by physical bread alone. Insight is higher and broader than sight; it also should be progressively cultivated. To educate the intellect too exclusively at the expense of the justice which involves the social sympathies is a growing mistake. Educated crime is the worst, hardest, greatest of crimes.

In other words my claim is that Nature's relations are efficient only through realities, and that human insight into the relations of things, in coöperation with perception through the senses, com-

pared and verified, can obtain undoubtable truth — real and unchangeable Knowledge.

Science deals with the facts and methods of Nature. It is a cult largely of direct observation, of the direct study of the things themselves, as far as that is possible; and it traces out the methods by which each thing has been produced or changed from what it once was. Primarily it is an accumulator of objective data.

Philosophy aims to interpret Nature's facts and to trace out their inherent dependences and obligations to each other.

Science and philosophy both seek to round up the parts into a consistent whole. Of course there can be no distinct line of cleavage between them. Effective science must have its own philosophy, must ground itself upon an ample range of supplied facts and methods by which Nature has worked. The mere accumulation of material in any one field of inquiry, nor in all departments of the universe, would be next to useless if they were not coördinated and interpreted, put in their respective places in a veritable mental perspective.

Its dead facts — having no purpose, leading nowhere unless into darkness or chaos — they would be barely worth gathering. But action must act and reasoning minds must reason. Nature's highest impulse to action is towards attainment of the highest corresponding values. Serious investiga-

tion everywhere is its own reward in mental satisfaction. The pursuit of anything has a fascination of its own; the pursuit of Knowledge, the most remunerative of all vocations.

Religion has been an earnest seeker after truth of a high order and of immediate practical value. From the earliest history Religion is first and foremost in the search after Knowledge that can be of most immediate advantage for one's best and highest welfare. Religious thought accepted unquestioned the certainty that something unseen, not ourselves, and higher than ourselves, could and would influence our destinies. As men had minds and bodies, they inferred that all substances had minds. For fear, hope, and doubt, they sought to buy or bribe the favor of the superior powers, beginning to honor and worship such natural objects as most appealed to them, individuals and communities selecting their own special gods for themselves.

Gradually more intelligence and the higher sense of right and wrong developed. Some wiser than others became the teachers, the authorities; their opinions accepted in theory if not in practice. As power also assumed authority, although authority of some kind seemed the standard to follow, might and right were not, and still are not, clearly discriminated in the ever growing and differentiating religious opinions. Old beliefs — in the children's love and reverence for the fathers — clung

to the wider outlook. The old narrowness stronger than ever unfolding other truths, authority for truth and an authorized interpretation of truth, are still held to be sacred, authorized standards of religious beliefs.

But increasing multitudes have thrown off the yoke of any authority except that of truth itself, which must be for mankind the mental, moral and social domain of living minds and their inter-relations with material things; multitudes more have become skeptical or indifferent or absorbed by the passing interest of to-day.

Many once fully credited religious doctrines have been clearly disproved. Religion, like Science and Philosophy, is on trial and must justify its teaching or become increasingly discredited. All first-hand investigation must go to the source of all truth — existence itself, infinite and finite — God and His universe. Every intelligence must learn to recognize the alleged truths, interpret them to its own satisfaction and accept or reject on its own responsibility.

All truth is one truth, but it has many phases; all real Knowledge is truth.

As the universe is everywhere related in structure and activities and as relation is some connection between two or more things related to each other, any theory which takes its stand with either correlate, assuming the reality of that side only — the other

like the reflection or shadow of this one, by fixing attentions long and carefully upon the properties and energies of the one factor, so many real phases of diverse characters can be discovered that one may be convinced that either half can do the work and is doing the work of the joint process. Many noted thinkers, either idealists or realists, have convinced themselves and others on the one side that the illusory appearance-matter — solid and resistant as it seems, helpful and efficient it is admitted to be — is yet but a myth wrapped about with its mental cloak but in itself a veritable dummy on parade. And so internally consistent is the material theorist in his observations and conclusions that disciples are made to believe that materialists are not merely ingenious resources and expert in the use of accepted facts; but that they are probably right in their interpretation of Nature; that matter is the one output of Being and mind the rather pleasing but fragile and fleeting phantom of substantial persistent matter. Idealists, in turn, abolish matter as a reality, making it but a shadow of existence.

The relative of universal Nature demands the duplex outlook into every relative substance and every relative process. Surely neither is this incomparable universe mere pretense and deception nor either half, destined to evaporate like the morning dew. Creation, like its Creator, could tolerate no temporary deceptions. Mistaken perceptions, concep-

tions and conclusions arise from human ignorance and far too narrow points of view. We are all fallible.

It will yet be proved that Nature never fails anywhere, and that the universe is a faultless, perfectly balanced and coördinated, interrelated unity, composed of exclusively personal, or individualized, ever-existing, real, finite beings.

IV

THE EVER-EXISTING; AND ITS NEVER-ENDING ACTIVITIES

THE Absolute, if it exists, must be the ever-existent — Being in itself, entirely self-sufficient, the never beginning and the never ending. It must be the sum and substance of all inferior existences derived from it. The force which produces the infinite activities must be the force which produces the finite activities. Absoluteness, whatever its absolute properties, must include, directly or indirectly, all that ever was, is, or can be. What less or what more can the Absolute possibly include? The Absolute must be the comprehensive total of reality and all created things — its derivations.

This statement, analyzed, means that one inseparable property or characteristic of the ever-existing is Duration — changeless, ever-present duration. Persisting being is ever-existing being, is changelessness in the substantial sum of its existence. Nothing can be prior to it.

But existence without action would be dead nonentity, a pure blank incapability. Whether the

ever-existing something is mind or matter, it has the power of acting, of changing, and of producing changes — not of substantial Being itself, but of changes in its activities. Whatever else existence absolute or relative may be, it has the power of versatility in action, the power of producing continuous, modified changes. The very essence of action is change. Action is an endless ongoing either of motion, or of feeling, or both.

All action is the product of force. Force is one in kind — the power to act, the imperative which impels to action — but action is manifold and always in accord with the substance to which it pertains and by which its force is directed.

Corresponding action governs both mental and material in relative being.

Ever-existing Being uncreated, unimpeded, would act in accord with its own nature, whatever that nature might be. If material and without intelligence, there could be no purposive activity; but if itself the initiative of all later things, could there conceivably arise plan, system, order, intelligent finite minds? The appeal is often made to law — natural law. It is a thousand times harder to credit a belief in self existent natural law, with its many adapted coöperative phases, than it is to believe in one uncreated, ever-abiding Intelligence that has indestructibility its abiding property.

This last supposition represents one supreme fact

so superlative in kind that everything derived from it falls into place without friction and with no reason, no inducement, except that of personal vanity of opinion for dissent.

The Ever-existing One is the efficient starting point of duration, of time, of space, of real things symbolized and their symbols. Everything which now exists is of its kindred. But what real thing is kindred to law? Law is itself the representing symbol of reality. Law is the expression, the statement of some fact in Nature; it has no life, no activity. Nature acts: law is explanation of why and how.

Mind acts; its inherent force is the very essence of activity.

Absolute Mind, if wise and kind, if supreme love and good will, would create the very best possible universe. For one, I believe that the highest of all possible intentions is in full process of being achieved. If other lesser minds were to be evolved, there must be an adequate progressive method leading up to the emergence of finite minds.

Mind would be worthless without a large degree of liberty and responsibility. Pain is the danger signal. It is the nature of things which brings all disastrous consequences; they are not arbitrary penalties; they are natural effects, a consistent part of the constitution of a universe which includes both the low and heedless or ignorant one, who did not

keep in harmony with the law. Law is not intelligence; it cannot distinguish between an innocent and a guilty, lawless deed. Wisdom and goodness would make none but the best possible laws. These wanting, it might be greatly otherwise — the universe a pandemonium.

Is there, then, no helpful suggestiveness in these following questions? But before trying to answer let us get clearly in mind the accepted conclusion that primary Being is the ever-existing and the ever changing — that is, neither increasing nor diminishing in amount — and that its activity (essentially ongoing) is an inseparable characteristic of primary Existence. Then: 1. If we, as reasoning beings, have life and mind, which is the more reasonable conclusion? That Primary Existence, from which our existence is derived, has or has not primary life and mind?

2. If our activities produce changes, results, and our more important acts are purposive, have definite ends in view, which is the more probable, that Primary Activity has intelligence to direct it and purposive ends towards which its activities are directed, or that Primary Existence has neither intelligence, intentions of any kind, no purpose, no chosen ends to be gained, nothing whatever subjective except ever-existing, unconscious, unknowing substance and action? Is it conceivable that duration of existence and the impulse to act wholly without intent or di-

rection, could produce our universe? Force and the ever-changing modes of force, producing their marvels wholly without sense or guidance!

How can the universe of matter have attained to the order of the ever-moving worlds and systems of worlds with no mind to adapt and establish their mutually dependent relationships? Think of the magnificence of the interchanges of light and motion, real attractions and repulsions. And how can humanity at its best have arisen so high above its source? By what process have men become wise and skillful enough to so adjust themselves to material forces as to use them for mental ends, becoming more and more possessors and conquerors of the material world? Its minds, have they arisen from nothing? Yet are steadily coming to be the autocrats of everything; they are invincible.

To hold that material things could not have begun from nothing, therefore that matter must have been either ever existent, or modified from some prior existence; and then evolve mind from mindlessness to take possession both of the substance and the forces of all natural things, is a theory without either rhyme or reason.

The creation of substance, essential Being, mental or material, is unthinkable, but we can think and can recognize the clear reasonableness of Being, of Mind, as the supreme existence. Mind and its living consciousness is the only real value. The only real

force underlying material force and its problems is mind force. Given Mind, absolute and infinite, the exquisite material universe, including organic life and finite minds, becomes consistently explainable. Mind is the all-sufficient, is the all-inclusive fact.

Matter can be defined as opposed, adapted and correlated modes of Mind force; its mental properties lowered and changed in process, its minds latent but potential.

Nature's primary, undeveloped units can be interpreted as conditioned structures of substance and force, so endowed and constituted that they become self-acting, and so correlated with each other that all are mutual incentives to coöperate on a just basis; mutually indifferent or repellent, if any coöperation could be unfair to either side.

Finite minds could be defined as each one the living principle in each primary unit, latent, inert, until the material worlds are ready for them; and the physical correlate of each mind is ready to cooperate with the mental phases of its mind in an adapted organism. To be mind means initiative, liberty of conscious force, able to act right *or wrong*. Crime and the resulting suffering, and right action alike assuredly caused, is the best, only possible exponent of a free and responsible personal character.

What is known of Primary Self-existence must be gained by the finite mind's ability in discovering and interpreting the facts and methods of Nature —

which is the product of the Ever-existing.

Duration having no property except enduring, continuing could be nothing by itself alone; it can only pertain to real things and the relations of things. Abstract duration is a name, a symbol, which represents the persisting properties of individual things as well as the eternity of the Ever-existing and of its ever-energizing force. Duration is an ever-present now; it has no successions. All finite action, all known changes, arise in an ever-present now; their durations can be compared and measured by any common standard; but the duration of absolute substance and equally of the relative, and the unending force processes, which are never completed, can never be measured as a total. Duration, then, is an inseparable, absolute property of the Ever-existing, and its changes are as eternally ongoing as absolute being itself, which is changeless in amount. Process is the ever-increasing and the never-ending successive modes of force. Force presents, locates and measures all changes and modes.

Process, successive changes of modes, must be the action of absolute force — the other inseparable property of Ever-existence; force, changeless, *infinite, total in amount of force,* the impulse which produces all activity, all changes, all modifications of all kinds.

Hence absolute Being is the total of everything,

of the non-changing abiding and of the ever-changing accumulating. It is infinity. There is and can be nothing which is not its very self, somehow transformed in the finite. Being is Omnipotence; there is, there can be, no power that is not its very own force, if directed and controlled by some efficient derivative of the Absolute.

It is Omnipresence; it is itself the everywhere; there is nothing beyond or outside of itself, larger than itself. Space, its symbol, is the representative of extensiveness. As a name, space is a necessity of language, of distinct conception, of communication between minds, places, distances; the *here* of everything finite which can be carried about in all locomotion, all relations that pertain to the real things and their real extensions. Space is not a *need* of Omnipresent Absoluteness, for it would destroy the innate self-sufficiency of uncreated Being. Space to contain the absolute would be a something greater than the total of everything.

The Ever-existing must be Omniscience. It must know itself better than it can ever be known by finite minds; it must know the natures, the relations, the processes, the achievements of created beings. Who or what can expect to teach anything to infinity? The Ever-existing must possess all real knowledge. But knowledge, as already noted, is not the only property of Mind. Satisfaction, enjoyment in all of its varieties, must be infinitely more

open to infinity than to finiteness.

Thought, embodied and incarnated in the universe, must have been and must continue to be an unending source of the highest enjoyments. To mind, which can read, approve, and increase the accumulating values which it has created, that is devised for human minds to acquire, and which they have been almost compelled to acquire and wisely choose to acquire — such Omniscience can have no want of ever-agreeable, inspiring contemplations. The details of ever-widening process must give occupation and interest of absorbing satisfaction.

The pronoun It is more often used in a belittling sense; in real significance it is a broader word than any other pronoun or any other term in human speech. Language can hardly afford to leave it exclusively to represent children, animals and inanimate things. Supreme Divinity need not be dishonored by the use of this all-comprehending representative. It represents both the absolute and the relative and all of their relations. What other word does that?

The question of personality is not so easily settled, but thought pertains exclusively to one thinker. So does every other phase of one's own personal consciousness. It is easy enough to communicate information to others, but it is not possible to give away any experience in the same sense in which we can give apples and roses — so that the receiver has

them and we do not. The knowledge is ours still; we cannot dispossess ourselves of it by gift or sale; it helps to mold and enlarge our characters; if we remember it, it is one inalienable possession. The exchange is representative. Though we do not know *how* infinity knows, thinks and acts, the universe is a perpetual reminder that as these products of Being are embodied in Nature therefore God does know, think and act.

Thought, feeling and action — perception, conception, knowledge — in all of their varieties pertain to individuality exclusively; action may be automatic; but thought, feeling, every phase of consciousness, is only a property of one conscious life — a unit; and every phase of consciousness in the nature of things is the personal feeling of one individual Mind and it cannot be lost to itself. How could it be otherwise, whether mind is absolute or relative — the total infinite Mind, or each of the myriads of derivatives from the Infinite?

In essentials, mind must be mind, whether limited or unlimited, as duration is duration ever and everywhere, although some things endure eternally and others, like one pulse or wave of action, but for an instant. Force also, the power to act, is inherently one and changeless in its nature, its kind of existence, however many its modifications in finite activities. To know them is to know the unity essential in each of them.

The absolute is the total existence, is Mind Duration, is all Force in itself — the three names together representing one reality, absolute Ever-existence, total Being and its inseparable properties.

The relative is absolute existence plus the relative produced by internally constructed relations, which so lower and restrict all actions and define the beings, each one limited to one exclusive unit in itself — so that every action whether motion or feeling, whether physical, automatic and apparently unconscious, as mental, receptive but conscious or initiative, voluntary and conscious.

In other words, the relative remains undivided from the absolute except by its lowered modes of activities, material and mental.

The relative exists and acts within the absolute as the fish lives and acts within the water, as land animals, including mankind (and fishes), likewise live, breathe and act in the air. The atmosphere is both external and internal to all relative beings. So is absolute Being both within and without relative being; yet Absolute Mind has given true reality, true individuality to every least unity of the universe while it remains of the absolute and has its indivisible properties — duration and force. Duration is ever-present changelessness. Force is never ending, but ever changing in the relative, and as relative in modes working ever and everywhere in relations, in coöperation in a perpetual balance of

interaction.

An equilibrium of process is a necessity to relative existence. Its processes, from least to greatest, must move in equipoise or annihilation of the relative must result inevitably. As the created relative, its conditioned constitution compels a perfect balance of correlated interaction.

Mind: greatest representative names for substantial being, absolute and relative; in its widest usage includes soul, spirit and every other name which indicates living consciousness, intelligent action which accepts its own experience as reality, the objects which help to produce its experiences as realities each of its own kind. On its own initiative mind as the subject coöperates with its objective to itself. Mind of these characteristics, absolute and infinite or relative and finite, must be individual mind. It must from the nature of the case act for itself. In serious matters Mind must have its ends, its reason for acting and its own experiences as consequences and as the originator and creator of the material structures in which it embodies its thoughts.

Infinite Mind has embodied its thoughts in the universe. Indirectly it has embodied its mental action in the activity of finite minds. Something more directly in matter, because still responsible for every automatic action of matter. Infinite, absolute Mind created matter — potentially on the gigantic scale of the universe and started it into coöperation.

The same ever-existent Mind created potential finite minds to do their own work coöperatively but with actual personal responsibility, each mind with its own share of every coöperative, temporary action.

How these different types of being, by their successive and simultaneous interactions, possibly might have produced a universe not unlike the present one it will be my effort to indicate in the following chapters.

The theory is an inadequate personal concept as all philosophies must be in the present stage of knowledge, but at least it needs and retains all of Nature's apparent realities as real existences.

Doubtless God, with His infinity of power, might have produced a universe as vast, as powerful, as splendid as the present one and in a small fraction of the ages of time already devoted to the making of this one. That He has not done so, if He is both supreme Wisdom and Love, must be because that plan would not have accomplished His highest and most benevolent purposes. My reading of Nature as it is now known magnifies my highest conception of supreme Omniscience.

If God for himself alone had created a universe, that universe must have been one vast automaton. His handiwork, pliant to His will but without life, without mind, with no appreciation of its own magnificence! And where would be the use of such a Creation, except that it might gratify the artistic

sense of the artist? But this universe can do that much far better. Then what more besides?

Why, it seems to be even now adding its quintillions of adoring, grateful, admiring, reverencing, new minds — minds that in some far distant day perhaps may almost emulate in love and aspiration His own unlimited wisdom and goodness; and there is no halting, no end to possible ongoing values.

Unquestionably the beginning and the end of Evolution is the inbringing and evolving of myriads and myriads and unending myriads of finite minds privileged with the coöperation of others, ever enlarging and ennobling personal and social destinies. The everlasting is far off, but some of its glories already glimmer through into the present, because Duration is the ever present. No human being can recall any experience, good or bad or indifferent, that did not arise in present time, in ever-present duration. Because we all actually do live in an eternal present. Yet its activities come and go and are linked together as past and future; but they all arise in the ever present — the changeless home of changeless substance; and if we recall any happening of whatever kind, it comes back into the present just enough changed to assert its own individuality as an event of its own kind — a memory.

Actions are permanently linked together by the chain of correlation. Because they arise in succession they must be related as successions, each event

recognized in its own place on the undivided chain of process. Otherwise all recognition would be in utter confusion.

Religion, philosophy and science each in turn and all together, with exceptions, have combined to discredit life in the eternal present. That is because there has never been a clear distinction made between Being *per se* and its successive but eternally evolving activities. This deficiency has made room for doubt both as to eternal conscious Being and its eternal energizing.

Our theory endows them with a common undivided eternity; it makes duration an absolute property of absolute Being, and creation the evolving of the relative from the non-relative, finite minds from infinite mind by a continuous progressive process, which like the links in a chain include action and reaction, double sidedness, yet moving onwards, scattering the contagion of action more or less broadcast but undiminished.

Action of any sort seems to exhaust the actor; but it is proved to be immensely strengthening within the circuit of that mode of activity, whether the action is good or bad, onward, or downward, or vibratory.

Because action is the only source of progress, is the very foundation within all advancement, good or bad; and because life and mind could not be evolved in strength, dignity of responsible or beau-

tiful, noble character without enough freedom of action, individually and socially to elevate humanity, and involuntarily helping to do so, to elevate itself even above all the angels of to-day (as they now exist). The Creator of mankind has made action the stepping-stone to every virtue, with its never-failing outgrowths of results.

For automatic action, the Creator is responsible in his infinite degree, as the human inventor is responsible for the working of his machine. The mechanic's is the responsibility for the methods by which the work is done; the work itself is machine work — is automatic. Then mind takes up direction and responsibility, so far as conditions allow; so far the deed and its results, its effects, are fruits of the actor's volition — they follow the deed and its motive.

In this connection it is needful to enforce only the claim that finite essential being remains and must remain in and of infinite Essential Being, and that finite activity is the literal derivative of Infinite activity, limited, lowered, individualized, and conditioned to act within appointed definite but potentially widening bounds left to the personal decision of the finite actor, and to the collective copartnerships.

Duration, extension and action, automatic or conscious, are all eternal realities — each of its own kind; they all inhere in Essential Being as its eter-

nal properties; but they are not separate entities. Creation modifies them as processes and by so doing increases their varieties and their increasing values.

Time represents all changes, the change pertaining to the beings changing as to their modes. Time is the name, the symbol, the measure, of all changes. A name is easily confounded with the person or thing named. Every real thing grows old and older. A representing name never changes of itself. If space is synonymous with extension it is a property of Being. Omnipresence virtually is extension. Finite extension is its derivative in much the same sense as finite mind is derived from Infinite Mind by an adapted, progressive, correlated, applied process.

Ever-existent Mind exists because something in its nature makes it self-existent, and it acts because something in its nature impels it to act. That impulse is force. Energy is force in action. There are different modes of energizing and they are increasing because the coöperation of opposites, blending their modes, leave, to each side the added blended mode, without adding or changing the amount of energy on either side. We do not know precisely how substance can retain its increase in modes: we do know that it actually does so.

The new modes, when permanent enough, as in the chemical union of substances, modify the combined structures but without changing their amounts, so

that when disunited the structures are the same as before the compounding. Force activities not being recognized by any of our senses until they become the associated activities of comparatively large masses, we must discover their additions by inductive reasoning or by noting the change of action in the larger mass. Every added new correlation must be added union of action of some sort. So far as can be determined, the primary units are unconceivably minute. The smallest known "element" (so christened when thought to be indivisible), lighted up and manipulated by electricity is disunited, presented to human sight and proved to be countless units in a perhaps still not the minimum aggregate. Of course, there could not be that type of internal action and its dissolution until the compound itself was formed. Neither molecule nor world can be translated in place until the molecule or world is formed. The entire ongoing of masses, small and large, is a correlated interaction in which far removed primary units are often associated.

It follows that methods are fundamentally progressive, as also fundamentally one in type, and that when the principle of working correspondence has been established by creative act, its essential method and domain established, that the continuity of process is also determined. Finite mind when evolved may add correlation to correlation, with or without blundering, although the structure which will not

coöperate within itself in concert proves a failure. This principle of correlated action goes far towords explaining the mystery of the seed as offspring of the plant parents and the parents of its own offspring. The cycle is not only an unbroken process, but it is likewise a continuous process between action and substance. The phases of action are force in action, and amount of force is an indivisible property of each of the substances which enter into the growth of the organism and likewise into the differentiated formation and separation of reproduction — which is also a new type of growth.

Conscious mental, spiritual, or soul processes, so far as experience goes, are one series of activities — the activities of one mind. The material may call the mind into response either in the beginning of each mind's evolution or at any later period. The material objects are always presenting themselves to the senses, and through them the mind responds whenever circumstances bring them into the right corresponding conditions. In turn, the mind may produce the modes of active alliance. By this double-sided arrangement, while the mind has veto power and may shut off communication to a large extent with the objective world, it cannot ignore its own organism, and must respond if the appeal invades its senses.

In this order of evolution the finite has no tendency, no cause obvious in its constitution, which has

the least trend towards annihilation, either of substance or processes.

Why is not its eternity, both of substance and of action, constitutionally ensured? Its substance and its force are both of the eternal, and the creative process has not intervened to disturb their inseparability.

Action is the indispensable function of Being and Being the indispensable basis of action; and living consciousness is its climax.

Not more than one substance can occupy the same place. The finite, as of the infinite, has its proper assigned places and methods within infinity; but every two finites must each occupy its own place and act for itself.

No one substance can be a true solid, at any rate in the mass penetrated by light, heat, etc., which helps it move its interior parts as an organism moves hands, feet and other members. Is not this an evidence that even the ether is not continuous, but an inconceivably small grained, discontinuous atmosphere?

Creation is wonderfully complex but consistent. No one human point of view can reveal the whole of existence. God is patience and wisdom and love. Man must learn patience and wisdom and love. The lesson is long and difficult; but it remains; it waits for us.

V

THE MAKING OF NATURE'S PRIMARY OR LEAST UNITS

A CLASS of things is a group of like things or of things alike in the particulars for which they are classed; yet each individual of every conceivable class must have its own exclusive properties, its individual characteristics. Unity of being must be a primal necessity of every being, whatever else it may have or not have. This means that every action must have its actor, that every property must have a substance which is of itself exclusively; have substantial property of which it cannot dispossess itself; and no essential property can separate itself from its substance.

As force is the actor in changes of every kind, in practical life men must estimate amounts of force needful to produce desired results; the ability to determine the amount of any special mode of energy in use is imperative in many kinds of work and in mental calculation. This has led to the study and use of force as far as possible apart from its substance, as abstract force independent in itself.

Moreover, in some minds of the highest logical

ability it has led to the theory that force is the total of Being. "If it does everything then it is everything," seems to be the reasoning and conclusion. Abstract science and mathematics, including logic, deals with relationing and the mutual dependence of relations in any given process.

But life and Mind are concrete individual realities and so is every unit of matter. Perception by means of the organic senses can never see, hear, taste, nor touch any object without practically realizing its object perceived as a concrete real existence.

No theorist ever deliberately walked off from a sheer high precipice, refused to take substantial food or to socially accept the real existence of himself and his neighbors. Actions adapt themselves to real things far better than pure reasoning. So long as every infant proves beyond question that it recognizes that surrounding objects and their movements are different, unlike types, and that they are not itself, we may fully believe in matter and its motions, and in mind and its feelings. Substance and action are one and inseparable. How then can we conceive of a possible method of constructing Nature's least units?

The attempted task — trying to invent a possible plan for deriving myriads and myriads of finite beings from one infinite Being — may seem preposterous. It is but following a notable company of

pioneers who have tried to explain some of Nature's real admitted facts. So long as the mystery of the universe production remains, many have tried and must try, try and try again to imagine how it might perhaps be explained.

The universe and all of its known items began to be, and as assuredly Ever-existing Being did not begin to be, but must have been the ever-abiding primary reality. Action and reaction, equal and opposite, between coöperating factors, is correlation. My claim is that relative beings might have been conditioned (created) by adapting and uniting differentiated substance and force in permanent correlation. Admitting that absolute force and its endless activities mutually adapted, opposed, push two ways changes of some sorts unknown to us; it could be only necessary to bring any two opposed changes equal in amounts, opposed in direction, probably unlike otherwise, but so fitted each to each that coming face to face or side to side the unlike forces would blend in one unity of action and in so doing define and limit their new relative substance, Nature's least unit, is indestructible so long as the correlating principle of relativity continues, cannot be annihilated unless by the supreme Power which created it.

With God, who has yet found variableness or shadow of turning? Equal opposed forces unite in the new units.

It is the nature of all relations to unify, specialize and narrow all processes; but with corresponding increase of efficiency which so balances results that there is no increase or diminution, either of substance or force. So far there is neither gain nor loss.

The gain in the making of conditioned units, of transferring individuality and its characteristics from the *One* to the many, is like the gain in communicating knowledge to others; the gain in which the giver does not lose the knowledge transmitted. Individuality is a characteristic of the Absolute and the method of giving it is transmitted to the relative very much as knowledge is transmitted to the learner by an established process. The process is carried on to the receiver who accepts and uses the method with immense gain.

New relatived beings are new indivisible units created by means of that applied principle in relativity, which unites all correlates in one mutually dependent unit so long as they act in correlation.

Primary mutually dependent conditions produced Nature's least units; then it was their work collectively to build up the universe and carry it onward to its present stage of process. The inventor who plans and completes his machine is not likely to become its direct operator, much less when the structure has been provided with full power to take part automatically in every coöperation adapted to

work with it. Creation was not an easy task; millions multiplied by millions of millions, all to be so accurately constructed that perfect equilibrium would be everywhere maintained.

Besides, the work itself was to bring its own values to the new worker, or otherwise its penalties, demerits. In that relation of good, less good and decidedly bad, Infinite Wisdom could not interfere with the natural processes so impressively weighted with consequences all its own wise provision.

In a universe destined to become increasingly rich and diverse, each unit created must be so constructed that it could honestly steadily increase its own ability to effectively meet every possible emergency. Such necessities must require correlation within the unit itself; it must be a self-balancing activity, a center of outreaching lines of force, differing in vibratory extents and velocities, made to increase in adaptability and increase of action; and to increase in methods with almost every act, with every new and wider coöperation.

A wheel-like center of outreaching spokes, but in all directions like a ball with threads ranging from the center outwards, best outlines my conception of the general form of Nature's least elements. Drops of water and other fluids round themselves into little globes and the great worlds assume the rounded form modified by coöperating motion. But form is non-essential except that it is the product of

coöperating forces working in correlation.

With every new modification of force a still more intimate relationship would interweave itself into the next process; and process must become inconceivably heterogeneous. We cannot realize that in feeling, but it is proved that so it is in Nature, and we accept that and multitudes of other conclusions which our minds cannot grasp in all of their immensities, yet which we really know more or less superficially.

The importance of every primary individual consists not merely in itself alone, but equally in its fundamental relations to the entire system of correlated Nature. It is not only a part of the whole, but it is itself an active necessity of the total system, so much so that the loss of its share of balancing force applied first and last in thousands and thousands of different ways at different times, in coöperation with different partners, would be an appreciable loss, would unbalance the thousands of temporary coöperating active systems of which it forms an essential and a practical element. The disturbance would be carried on through the entire universe, if it is true that the interaction in gravitation is universal. Then, if we could suppose that gravitation ceases to act beyond its own solar system, yet the thousands of thousands of lesser systems unbalanced by the steadying help of the lost primary unit could merely continue their work

like maimed and limping cripples. At any rate, that would be the effect if any one of Nature's least units, after working, let us say, for about the length of an ordinary human life, could then have all that it is and all that it would have done in an ordinary way completely drawn out and lost to the rest of progressive Nature. Only a small bit of results is visible, remember.

Each one of God's created least units is invaluable. Why not? It is the Creator's own handiwork. It was made to be itself — an eternal individuality. It was made to do its fair share in an increasingly complex process, eternal in duration. Is the destruction of one such unit, whether material, mental, or psychophysical, to be feared, expected, or morally possible?

What is every individuality made of? Of the Ever-existing assuredly; there is nothing else which it could be made of, and nothing else which could help in the making of the primary least units of Nature; but they, when created, could begin to work, to co-work; that is exactly what they were made for. Nature is a co-working total of relativities, all of them mutually helpful in every process with which they are directly occupied. Relation relates both finite being and finite action. In every sense we, as among the least units of the universe, are the direct derivatives of the Ever-existing Substance, of the Ever-existing Duration and of the

Ever-existing Force — God. These three phases of Being in our smallness are as inseparable in the relative as in the Absolute.

But this is not a subject-matter to be settled by logic alone. It is a problem to be solved by appeal to the facts from first to last, as far as that is possible. Our knowledge of the Creator is obtained through our knowledge of the nature and processes of the things created. Just as one looking to any complicated machine, as a watch or a steam engine, can examine the relation of its parts and sees it in action, can know something of how and why it was put together, so that each part is doing its own work in helping in one allied action, so in studying any object and seeing it in coöperation, we may know more and more of how and why it was constructed, made ready for coöperation.

As relative (in the nature of things, nothing can be gained, increased by internal coöperation of parts, with a continuous equipoise in every part and in the whole balanced system) all gains of every kind must arise through coöperation exactly also in relations between corresponding units of being.

Process everywhere moves on divided lines or strands of process, but ever in an unbroken continuity.

Thus a little cambric steel needle was made an individual needle by the correlations between the

needle's eye, its slim body and its sharp point. It is a completed structure of its kind; but by itself it can do no work. Someone must fit a thread to match the needle's eye; if the thread is too large to go through the eye, it must be rejected, if too small it can be used for sewing cloth; but the work will prove the flimsy result unsatisfactory. Needle, thread, the cut garment ready to be made up to fit the person who is to wear the garment, heavy or light, suited to the season in which it is to be worn; so endlessly onward run and must run all of Nature's relative processes; and every process, in the nature of it, is double sided or complexly double sided.

All action is some adjustment between the coöperator's work, and also between the working method and the work to be done. The little household needle by a proper modification can be put into a modern sewing machine with treadle, wheel and numbers of other interrelated, delicate adjustments. Instead of one little hand-push of the needle at every stitch, two perhaps tired eyes focussed upon every stitch, the main part of the work is now done automatically. An easy almost automatic first push — becoming more and more automatic by habit — moves on step by step till the work many fold in quantity of work measured by the time taken, and many fold also less nerve and muscle wear and mental strain.

This illustrates one type of relationships and its gains in real values. Nature has many kinds of relations and their many corresponding kinds of gain, some only twofold others a hundredfold or more, as sometimes in the offspring of a single ocean-bred mother or the seeds of a plant. Process moves onwards; it may and often does repeat itself; but it has no active relations with the past, none even with the future; all work is done in the present, as all duration is ever present.

The method established, all activities within that method conform to its requirements. Each new relationship specializes its own processes. If the cambric needle had a memory it would remember only the work done with the help of the little living fingers. The machine would remember only machine processes, and, with an outlook wide enough, the superintending co-worker.

Each created being in and of the Absolute ever existent, is ever existent substances and force, with its superimposed relativity, must act, move, feel, think (if it ever attains to life and mind), wholly within its relationships. But unless the Creator annihilates his own creation, the relative is as eternal as the Absolute.

Our theory claims that Nature's primary units collectively are so endowed that the progress and destiny of the universe depend directly upon their interactivities. They do the work actually, directly.

First, they are commissioned by mechanical action to bring the material universe into fitting conditions to welcome and coöperate with the mental universe increasingly in all mental changes as they arise and advance. The theory attempts to account for the actual facts as they are known to have arisen.

In those long years, the many ages of material evolution, the systems of worlds and their inorganic contents were products of many-phased, coöperative motions, so preadjusted by advancing correlations that land, water, atmosphere, solids, liquids, gases, — the so-called elements, the practical units, the building units, of our era — are all brought into practical working partnerships.

In the primary or least units the Creator, God, devised and potentially provided for all subsequent relationships. These primaries are the only inseparable masses, the only real units. All other masses temporarily are in coöperation, including all organisms, and the solar systems probably are groups of co-working units, and sooner or later may be separated to reunite in other masses.

I hold that each primary unit is an unseparated bit of Ever-existing Being upon which is based the added, inseparable, innate correlation, which defines its underlying basis; the whole retaining for itself so much of the substance and properties of the absolute as its correlations have preëmpted. All of its conscious experiences arise within its interior rela-

tionships. Also all of its activities are coöperations with other similarly conditioned units, are all the products of active relations working in constitutional mutual dependence.

Correlation may be added to correlation, the inter-activities arising within the new union working in partial independence, while the prior correlation continues its own processes unchanged.

This wonderful elemental provision for evolution should be especially noted. No new correlation needs to annul the preceding one upon which it is based, yet even that may be achieved by the ignorance or the obstinacy of the misguided Will.

Whatever else may belong to Ever-existing Being, Mind is the intelligent conscious director of its own inseparable absolute Force. As the Ever-existing Duration, the other absolute property ensures its duration and the duration of ever-changing, ever-existing process of every primary unit — unless the derivative product of all the ages should be entirely annihilated.

Present time a moment's space! It is eternal time, duration itself! — unless treated as a name, representing changes.

Again, relations do not change the substance or the properties of any prior substance to which things are attached. When the needle is steel in substance, it remains steel, still performing all of the normal activities of steel; it is heated by fric-

tion, by any source of heat; it can be electrified; it absorbs and reflects light, etc. These many coöperations are its interactions as steel — not as a steel needle; it may be made to prick as a needle, but it can do very little else except to help fasten something together with thread — its real function as a needle. As claimed before, a correlated substance is narrowed and specialized united work, while its share in work done may be vastly increased while the present substance to which it is attached and of which it now forms a part is not one iota changed by the relationships that are added to it. When the needle is made of poor iron it remains poor iron, and breaks readily when a hard strain is put on it.

The primary correlations of Nature's units added to ever-existing substance produce no change in the parent substances.

Relations are not substances, they are limiting methods applied to forces; their function is that of guiding force-action into desired channels, and their purpose is to accomplish desired ends, new relations, and new processes.

Correlation may add substance to substance as it unites force to force. It adds the pin-head to the main body of the pin; it adds the entire structure of wood and iron to the sewing machine; still it produces no change either in the substance added, or added to, except the change of form and size, which

are not changes in the nature of the material; and the formal changes in the sewing machine are parts of the work necessary in attaching another correlation to the simpler correlation that produced the simpler cambric needle. No substance is essentially changed by correlation; its properties change.

It is to be noted also that in these and all other relationships, mind has taken the leading part in establishing the ongoing process. Mind contrived and fashioned the needle, the thread, the cloth, the garment, etc. Mind directly guided the needle, taught it to make its stitches firm and even, and mind so constructed the machine that its merely mechanical work must be accurate so long as the machine is in good order.

The principle of correlation is and must be one in kind, however various may be its applications and their results. All correlations are mind produced. Intelligence recognizes, selects and desires both means and ends. Human mind in its weakness rarely, if ever, succeeds in at first making a perfect machine, especially of the more complex sorts. Improvement follows improvement, variation variation, improvement or otherwise. In general, the better structure and the successful combinations defeat the less successful. It is a standing illustration of the younger usurping the birthright of the older.

The correlation, that called into being the universal host of primary units, is of the same class

with all other correlation. A gnat is in the class with an elephant, and a rush-light with the sun. Their kinships in contrast as dimensions are insignificant compared with the created act which directly and indirectly brought the universe up to its present stage of advancement. In its largest sense all finite correlations are included in the primal birthright endorsement of the myriads of created new individualities, as the seed is immanent in the parent tree.

In this upreaching and outreaching process, matter has become mathematically so evolved in vibratory extents and rates of corresponding motions that they are able also to work in correspondence with organisms and their indwelling types of life and mind in their advancing evolution.

The infinitely small is found to be, so far as it has been discovered, as exactly coördinated in all details as the infinitely large. As provision has been made within each primary unit for structural progression physically, like provision has also been made inherent in the constitution of the primary units for organic evolution by infinitesimal stages, and in the organic process is involved the corresponding mental progressions.

The leading function of the plant is the raising of the mineral up to the grade of living matter and to become the basis of nutrition for animal life.

The progressive movement rises and widens step by step from lower to higher in normal progress of

animal types. Sometimes there has been retrogression, generally from interactions with environment; but in later stages by the pervasive interferences of human freedom privileged within limits to act right or wrong upon its own responsibility.

Without free mental volition with its legitimate outgrowing results, finite minds would be too tiny and worthless to be worth originating as derivatives limited and conditioned by Creative wisdom and good will.

Briefly, all progress is grounded upon some prior progress, so that no advance has been made in Nature, so far as the records of geology, astronomy and history in general tend to prove, except by the addition of some new correlation in which coöperations arise in new phases within the new combination or by repetition.

VI

CONTINUOUS PROCESS

IT is a wide outreach from the infinitesimal dots — Nature's least units — to the outer bounds of the universe, but given a constitution exactly fitted to perform the great task allotted to them collectively, these unthinkably small midgets could do what unquestionally they have done — build up the worlds; build up the mighty worlds and their contents and set them all into a rhythmic maze of interweaving movements all in self-balanced harmony.

The Creator's work, His free gift, was the conditioned structure and its conditioned processes. Action is an individual act. No one can act for another any more than he can breathe for another. What was given to each in establishing them as ever-persistent limited beings external to each other, but within Infinity of Beings, must have been its infinitesimal portion of beings to each as the basis, then the additional endowment of a relative individuality.

If this supposition as to method and gifts seems merely fanciful, look carefully at existing facts.

Mind and matter are both here now at work together, though they did not build the worlds together; they are together now carrying forward Nature's unbroken lines of process, and the fundamental method of proceeding has not varied.

We have already considered at some length the supposed nature and methods of correlation. Relationship in action is a process, a governing principle, not a substance. It must have substance to work with or upon, because process is a force product; but it is everywhere inseparable from substance and thus everywhere under substantial guidance.

Human mind, a derivative of Supreme Mind, should naturally follow its author in the work of establishing new correlations.

All known inventions, machines, structures of any kind, from brass-headed pins to a Panama Canal, have not only put their structures upon a solid foundation, but in no case has the relative process produced any direct effect upon the natural substance either of the *basis* or of the relative structure itself. Structure guides process. Structure produces process. Process does not produce structure, but all relative processes do modify structures. The making of anything of any kind is a process that occupies a measurable time.

All man-made devices have some kind of outside support, the moving parts are sustained by those at rest or by some interaction from outside, as with

the revolutions of worlds and the molecules of gases. In all, similes, coöperations, substance, material, mental of both, work together as one unit whether of a permanent or of but a momentary unity.

Finite force has nothing of which to make relative substance except preëxisting relative substance, no other foundation on which to put its new structure whether a small box, a beehive or a world's canal. Infinite force had nothing of which to make relative substance except Infinite substance. Each finite is the infinite of its kind in miniature, whether of substance, force, or of process in which substance and its acting properties, modes, are an individuality — a unity.

Primary unity conditioned the lower type of mutuality, dual and complexly dual process, the complexity and heterogeneity of process ever widening by means of new coöperations between substantial units limited by their internal relations but changeless, each one in its own amount of substances and of force.

They must presumably be the potential heritage of every unit of finite being. Whether all will or will not attain to the responsibilities of life and mind, remains an unanswered question, an unsolved problem, apparently waiting in a distant future, because it is a practical problem for which past and present facts have not furnished the data.

The special point to be noted here is this: the

inferential probability of the kind of interest which the creative Mind, the continuously sustaining watchfulness, must take in the progress of the outworking of the mighty progressive method, its individual and community already produced results.

Enough to claim here that the Giver must receive more than an equal recompense, because what it gives is a new activity in the receivers and with no loss of action whatever to the Giver. Action being activity of force, and force activity-giving in the unbroken lines of process of any sort and degree is not to lose, but to gain, means to keep as much as is given and the overplus of the gratification itself of many phases in helping another or many others.

The Creator then has lost nothing either in the act of creating Nature's eternal least units and in handing over to each the task of developing its own possibilities by the help of its co-workers; and of developing the latent possibilities of its neighbors by helping them.

Nature, the universe, is a method for evolving continuously increasing values; and it is sustained as a continuous illustration of the wonderful truth that the Allwise and Ever-loving has created a universe in which it is literally better to give than to receive.

This is as true in the relative as in the Absolute.

It is the new modes of coöperation and the values so produced which justify the existence of relative

beings. The inexpressible values of the marvelous productive scheme which created finite existences are beyond human comprehension. And what is there in the principle or in the workings of the principle of applied correlation that can have the slightest influence as a destroyer or diminisher of Being Ever-existent and its properties duration, which is only another name for ever-existence, and force, which is the one name for every possible kind and quality of action, infinite and finite?

What has infinity lost? As I interpret the facts, there has been no loss; instead there has been perpetual gain — not merely in the finite but equally, if not assurably more, to the Infinite. The substance, duration and force, remain unchanged in amounts; they were essentially, innately absolute and indestructible. A plan has been devised which at its very inception, at its first executive act, constructs potentially by interdependent relationships the next-to-infinite hosts of new limited beings, adapted in all respects to enter into endless partnerships among themselves; and every partnership so fitted in all of its possible details that it must arise and continue as a perfectly equal partnership of interaction so long as the special activity continues. And the related method by which all this produced compels a constant increase of action is that of motion, of feelings, or of both, blended into one unity of action.

We know the absolute and infinite through the finite and relative. The following comprehensive terms are different aspects of a common unity. Omnipotence, Omniscience, and Omnipresence — power, wisdom and presence — are the finite inheritances from these infinite characteristics.

God's oversight, His unsleeping providence, His loving, ever-noting and superintending interest, is not a literal working part, as I am compelled to believe, in any finite process whatever. When it is inspiration, we may fail to recognize it. If it is revelation, we may dream that we alone discovered it; if it requires prolonged patience, disappointment and renewed courage, we may inwardly hug ourselves with approbation while His sustaining, His enveloping mental and moral atmosphere, more needed and more helpful than the vital air for our bodies, is unfailingly waiting, enfolding us in His oneness of action.

This only means that God's ways are not our ways, and that we must look for help not altogether in Nature's finite processes but in a benign Divinity of Love which transcends Nature, which He established and upholds, and which is also akin to every fiber of all being; which is still solely in Him and of Him; but which is adapted and destined in mutual helpfulness automatically and with intelligent volition to work out its own eternal destiny.

Without adequate freedom to act of and for our-

selves and for others, destiny would be as tasteless as the burned cinders after a fire has scattered its available present activities; we should miss the eager spur to personal and social helpfulness. But we return to finite process.

Evidently equilibrium is the governing desirability, the physical necessity, in every phase of finite activity; equal action and reaction, the prime necessity. So much organically secured on both sides, under all conditions, process is equally equipped individually and socially. Process is evolution.

The individual and the commonwealth equally claim to be held in orderly and systematic equipoise.

Inordinate self-seeking and self-indulgence are banned, personal greed is an organic crime, is the subtle, seething essence of all sin. Every form of crime is its humiliating outgrowth, rebellion against equity grounded in the inmost nature of finite being, the demand for equal justice and practical law in all relations between one's self and one's neighbors.

Just here is the organic, the imperative, foundation of all morality, of all intelligent, clear-sighted mobility. Motives and conduct alike hang upon the one balancing system of impartiality.

The stars in the heaven are suspended upon that one principle of equal action and reaction, needing nothing in their on moving flights which is not coöperatively within themselves.

Time and space are human necessities and human inventions. Ocean waves and all other waves move and break, their local unit of coöperation arising in continuous successions. Ingenious human ability has invented time measures of definite lengths, to keep record of the recurring relations between motions and feelings in something like an approximation to the order in succession by which they arise. Impelling necessity was mother of time and space.

Without these connectional time measures we should be utterly helpless if attempting to deal with the history of Nature's processes.

But it is not time, it is the tides, the worlds, the people who walk, move the various members of their bodies; the machinery that is made to follow the lead of the inventor's thought; things not times that change as successions.

It is not time that feels; it is life and the intelligent living mind, feeling, thinking likewise in succession of action and reaction between mind and Soma, mind and organism, mind and matter in ever-widening waves of action like widening rings in response to the stone tossed into it in heedless play.

Time's measures, applied to all of these changes, and space measures, applied to all extensions, to all distances, have brought order into what would have been mental chaos without them. Time and space are both the measures and the representing symbols of the real successions. How could anything (in its

absence) be thought of or spoken of if it had no name to represent it? Yet the name is not the thing. It is easy to assume their identity. Without our clocks we should fall back into precivilizations (so far as we are civilized); but so we should without machinery of other many wonderful varieties.

Nature adapts human inventions. Human devices rival and outdo automatic progressive skill, and Nature adopts the results. Humanity is itself the latest product of Nature, and, like every other product, the works of mankind must conform to the self-balancing principle of equilibrium or utterly fail of success; and doubtless with mankind (as mortally embodied like all other known finite masses, though of higher variety), Nature has not yet completed her endless evolution.

Mankind in its organisms has gained a higher round on the rising ladder of upward trend, but still higher rounds must be hidden in the already partially illumined shades of the not yet achieved.

It is the nature of all waves to follow their predecessors, but with small variations, because there is a wide environment with which they are also distinctly allied, and every unit is manifold even in present partnerships. Thus no two waves, no two translations, no two thoughts, no two generations, in our day no two individuals, or things, are precisely alike, and as the Creator of the matchless

scheme must have intended, variety, "the spice of life," is continuously increasing.

And where is the divided line between the creating of that fundamental mode of process, and the carrying onward by the methods and within the limits provided and assigned for an endless evolution?

To be able even partially to explain what already has been accomplished, so far as history unfolds it in the prolonged onward and upward trend, should be prophetic of the fullness, unless that explanation is discredited in its most fundamental features.

There is much in degree. Is there in kinds in the world of relativity?

For me, I see in psycho-physical Nature the carrying onward of only one continuous scheme of interrelated energizing. Automatism does its work under the guidance of correlation structurally enforced, the structure itself devised and initiative-impelling force supplied by Wisdom Infinite and as in finite, the inventive structure is a mechanism and the interaction mechanical.

All other activity is conscious volition, or constitutional reaction with consciousness. Each primary unit is conditioned potentially psycho-physical because, as a derivative of infinite Being, potentially it must possess the essential properties of Being, though in many of them, the higher properties may never be called into exercise. Created being, in its finite degree, substantially is finitely modified in its

activities and structural modes.

Each individual, beginning as a conditioned structure, endowed with persistent force, first does its own mechanical work, and consciousness emerges only when correlation calls it into exercise.

In all of its properties, mind in each one begins its personal growth. Every new modification of the individual consciousness must have its special unfolding in correlation with its physical opportunities and resulting material evolution.

Every mental phase of the one indivisible mind must have its own opportunity physically or it will not be adapted in psychic consciousness. This is equally true in moral, esthetic and intellectual evolution. All evolution is correlated matter and mind evolution. Even the automatic begins its unfolding long before mind, because matter is the fundamental balancing principle in correlation; but when mind is evolved, then, as the superior in conscious modes, mind becomes the leader; it is the only finite initiator of changes and modes of change. All changes are produced of and from the Infinite, but they are all unlike in modes from infinite activities as dependence is unlike independence in action.

Savage mentality is held back by its environment. So a child born and raised in the slums of a great city, absorbing the current opinions of his surroundings, and acquiring corresponding habits (unless he is exceptional in getting knowledge from higher

sources and molding himself more or less by their influence), remains a mental and material slum product, more and more confirmed in that type of character as he grows up.

For so much one is either not responsible or but partially responsible. Conscience, like every other conscious faculty, inherits a facility and a trend and, like every other, it is either confirmed or revised by education. The innocent growing brain, mentally and physically almost as fluid and unstable as water, must conform itself to the mold of its surroundings. Here, then, is social duty most imperative and most effective. Childhood is the ward of maturity.

Combined effects are only the roots of their combined causes. By our theory Nature has been given no punishments, no arbitrary dispensations. Penalties and rewards are sufficient and efficient effects of their causes. They never fail. Nature's effects are dependent, legitimate outgrowths — results of their causes. Innocence may and does suffer, but it does not suffer condemnation and remorse, the penalties of guilt, of sin in every phase where it is brought face to face with itself in a realizing sense.

Doubtless generally the most degenerate being has some real sense of right and wrong. They are so completely put in opposition in the inmost constitution of being that they cannot be wholly unheeded, either by perception or insight innate in every unit of conscious finite being. Nevertheless it becomes

apparent that the worst criminal, steeped in detestable crimes, may stand on a moral level shoulder to shoulder with an educated, intelligent, apparently highly respectable criminal.

"Judge not that ye be not judged" by man. God's standards are most often too widely apart from our human standards, which are as unlike perfection as His wisdom from our wisdom.

The teacher in giving knowledge to another can lose no knowledge of his own in that process. What he communicates is a physical action like his own. Expressed in words which have distinct meaning, the pupil translates that physical process into thought, into idea, with a perception of the meaning so conveyed. Language is a symbol, a representative of thoughts and feelings. To a foreigner words mean nothing, to a child nothing, till he learns their meaning and can put them together in phrases, and retranslate the sounds of words into his own thoughts.

Teaching is carried on by mental suggestion embodied in physical terms of vibrating action. The teacher imparts the proper vibrations. Thus all action is an ongoing of its particular kind.

Creation is a lowered and limited ongoing of Creative action. Our task is to repeat in kind and each in our own degree to carry on the Creative intent if we can. All process being essentially one in kind, and though it branches off, widening in count-

less directions, it is one unbroken continuity of never-ending force-activity, one continuous force process, never resting and never ending, an eternal continuity.

Is this merely theory? Not at all. Look where we will, there is no break in ongoing either of substance modes or of process. Every morning on awaking consciousness testifies anew to the continuance of its own being and of its energizing functions. Every outlook testifies to the continuance of the objective world and its familiar processes with equal positiveness.

Nature is so changeless in its laws, so continuous in all of its working phases, that we rely to the utmost upon its practicability. Even in its most variable features, as in the yearly temperature of any given location, it keeps so nearly to an average in each season that we instinctively anticipate its actions and reactions. We confidently look for the immediate causes of its seeming vagaries, and we generally find them. No star was ever seen to change its line of progress, to stop five moments in a century to rest, or fail to be on time in its own place at the right season.

In these latter days we do gather figs of thistles when the wisdom and patience and perseverance of a Burbank learns how to exceed Nature as cause in producing effects, and transforms the thorny cactus into the nursing mother of delicious fruit. Step by

step, rhythmically, through long devious processes, but with no break anywhere, the transformation is completed so far by the delightful encouraging processes of a genuine evolution.

No cause is single but all causes originate, blend and coöperate as consistently as morning sunshine overflows the last night's darkness. There has been the steady, orderly ongoing, usually the advancing phase fitted to every other with no flaw anywhere, and yet the face of the entire world changes every twenty-four hours, even at the North and South poles. As with the growth of children and trees, we see the change, but we do not see the changing; that is too swift, too soft, too subtle for our eyes or any of our senses, but not for mental recognition, and its ecstatic appreciation. When we attempt to extend our recognition from details to their totals and to comprehend that there is no process in all the universe which does not slide into action as naturally as the light glides in darkness through the interstellar ether, to relight its shining flame only in our atmosphere, we can only respond: It is so, it must be so, for everything is giving its testimony to the stupendous fact. We cannot realize it, we cannot trace out its interweaving details as we can trace the progress of the angular mineral through the plant to its transformation into quick and rounded human flesh.

Manifold causes everywhere, yet truly one and

indivisible, manifold effects follow as taste follows the sweetness that produces it, as sight follows the outlines of the persisting object, as day follows night. The innocent creeping baby may slip its little finger into the pretty blaze, but it is not likely to do so twice. Pain is not good and all calamities are painful, each in its own way. But they are educational, and the stiff-necked generations of mankind require a great deal of educating. Line upon line and precept upon precept, certainly in Nature, are supplemented by blow upon blow, earthquake upon earthquake and their kindred. Are they not still needed by still imbecile mankind?

Was it simply the tempting flame that caused the pain in the poor little baby's finger? In part, at the climax. But in truth that was but a very small part of the long line of causes which culminated in that crisis. At the source, there was the nature of the fire and the nature of the little tender flesh. For those the Author of the creative scheme was responsible. Fable has made torture the penalty for giving fire to mankind. That may typify the resulting evils produced by fire, yet no one doubts that fire has done immeasurably more good than harm. Precisely so it is with every other kind of catastrophe which is only one small fraction of one per cent. of the good produced.

So far mankind will not learn to be wisely provident. From the mother or nurse who exposes a

child to that kind of hurt to cities and houses built at the very feet of volcanoes and in the open mouths of great rivers, well knowing that lava may overflow them, the ocean may turn and sweep them with an overwhelming tidal wave — all the long way there is human improvidence and recklessness of almost every conceivable sort.

That disasters are educational we know, because after calamity occurs, whether small, appealing only to the few, or a needless crash which shocks and arouses the entire civilized world and seethes its way into the darkest regions of the world, better measures are taken and the over-much talk gets some action in deeds. Also everything is duplicate with either its negative or its positive side, as light with its negative darkness, water with its automatic versatile helpfulness in many thousands of ways, and its unparalleled possible destructiveness. Good and evil are inborn allies. Without water the whole world would die; and if its normal properties were different in any particular, there would be suffering and loss. I believe this is literally true of every other organic cause of suffering, of every such influence including all possibilities of good and evil, right conduct and wrong.

Without the power of choice among all available values, life would be more than insipid; it would be a mockery, a sham, no goal, no effort. Life would be dead to every desirable possibility.

At all events, evil is here; it has been here ever since man evolved a moral nature from his unmoral infancy. As every child begins his personal evolution at the earliest dawn of consciousness, it is only conscious and willful wrong motive or deed which counts as evil.

Pain and suffering, caused by others, may become personal blessings. We know that they are often so reversed, and that social duty is adapted to help in this reversal. Also as we are adapted and obligated to help towards all community advancement which lies in our domain, by no means overlooking our own all-round individual growth of all correlated kinds, where is there a dividing line in any phase of finite process, material, mental or moral?

The personal and the social are likewise held in a many-phased unbroken equilibrium. Each nation, like each individual, has even an internal consistency in its theories and practices; its apparent anomalies melt into the total, so that, as a biologist can fairly reconstruct the whole bony system from a few teeth or any few characteristic bones, any small number of concrete facts serve to determine the specific structure of an entire national character and its general public opinion. Exceptions help or hurt themselves and scatter their influences more or less widely; but the active self-informing principle of community equilibrium tenaciously holds its own.

Democracy, pure and simple, is Nature's consti-

tutional inevitable final outcome. Perversity — with its measure of personal freedom — may zigzag in crooked directions. Effect follows, clings to cause. Our theory claims that nature has no punishment; but its outgrowing penalties are never remitted, its rewards are never forgotten. The penitent is helped and forgiven; but his inherent nature compels him painfully to retrace his base and ignoble attempts to carry off unearned spoils or rob another. In the scales of duty, personal and social obligations are equal balancing activities constitutionally enforced.

Individualism, its rights personal and social, has never been too strongly stated. The solidarity of the commonwealth can never be too strongly enforced; but rights and duties, individual and social, constitutionally interpreted, do not conflict; they are an ever-balancing progressive equation, neither allowed to claim ascendency. The medium line of effort and conduct lies between them. The great endless lesson of life is the learning to hold them in a perpetual advancing balance of interest and achievement.

Like all of the other values of life, moderation, neither too much nor too little of what it is worth while to acquire and communicate, becomes the unvarying rule of wisdom; and its desired results are by this law ever best ensured. Excess in any direction is the deadly enemy of all highest achievement.

Nature can be mocked, belittled, turned backwards, overlaid by old traditions or overweening new projects, but its constitutional retaliations are inevitable. Nothing in God's universe can be made of no avail. The personal and the social are the ever-balancing forces of human conduct and its legitimate higher welfare. The attempt to antagonize them in theory or in practice has always proved suicidal. The entire history of the race has testified against it, and its policy and gains have ever been of temporary inferior kinds, and its losses even in the endless ages must be a regrettable record.

In the nature of things no blotted page of history can again be made clear and beautiful. It must be of the utmost importance for us to find out what Nature and its fundamental constitution do really demand of us. Of process, individually and collectively — an unbroken continuous evolution — the springs of the earth, its rills, rivulets, rivers, lakes and oceans, even its mists, clouds and rains, though inefficient are a fair physical illustration of an ever-evolving life at once personal and social.

Evolution is claimed to be the generic process of deriving the finite from the infinite. A "son of man" in a closer, higher, deeper sense is also a son of God.

Can sin — gross of type — destroy that structural bond? Sin, immoral, personal, is not of the basal universal constitution. It is but a permitted

free act.

The theory of evolution is now generally accepted; but if evolution, action of the entire creative scheme, does not imply unending continuance, the alternative is universal annihilation.

VII

THE MAKING OF THE WORLDS

MY object in this chapter is not so much to deal with actual processes and results which admittedly have brought the universe up to its present stage of ongoing, but to indicate some of the relatively dependent phases of advancing progress arising one after another, each advance some new modification of a previous status and its natural outcome. New processes are the process-children of former ones — unmistakably in a parallel sense to that in which new modes of substance arise as modifications of prior substance, or children of all types descend (or ascend) with the help of ancestors.

Applied correlation is the blending of adapted modes of force. The result, applied to related modes of substances, is new relative properties; neither additional substance nor force; but modifications of both. Creative process is new-relative process.

The original creative act produced new structurally relative beings and their relative processes. No succeeding outgrowth of relationships can produce anything except new modes of properties or

process. Every relative primary or least unit of Nature is the direct product of a supreme creative act. A new individual has been made relative by the union of dependent opposed adaptions. Thenceforth each new being exists and must exist, was created to exist, created not to change in amount of substance nor in amount of force, both non-increasable and ever existing.

Correlation must have been expressly created to increase, modify and advance the process and its endless varieties of coöperations. The units either coming into coöperation as face to face or side to side; but always with the blending of more or less opposition of modes, both sides meet and part, each gaining from the blended difference arising from the unlike modes of the unlike correlates.

This blended difference, fused into one mode of action, must leave some changed addition to both correlates in kind and extent of process.

As it is the nature of process to go on changing and growing endlessly, that is exactly what must have been intended and virtually (by established methods) indirectly produced by the creative act.

Then taking it for granted that all created primary units are endowed and constructed each to do its fair share of world building, the first and the continuously maintained requirement must be a perfectly balanced equality of action in all partnership action. This equality or equivalence of interaction must hold

whether the coöperation is some modes of motion, some modes of feeling, or interactions between motions and feelings.

Motion is found to be the balancing factor in all physical processes. It is fully believed that life and mind did not make their manifested advent in Nature until matter, the mighty systems of worlds and their multitudinous inorganic substances and forms had arrived at a practical maturity. In other words, by direct action the coöperations of material Nature performed the entire work of building up the inorganic universe previous to the advent of life and mind. The theory that God has done the direct work of world-building is discredited. Matter did it.

Can that rather startling (though entirely accepted scientific) teaching be reasonably accounted as a necessary result of correlated action? It has not been accounted for by any other theory; but it is the foundation of the theory of creation by the practical application of the relative and correlated evolution. Everything is constructed to work of itself, from itself — to do its own work is the real mission of every being and thing.

Infinite Mind devised the plan, supplied all of the substance and force, conditioned all methods of working with ample supplies for all that can be accomplished; thus indirectly becoming responsible for all possible happenings, good, bad, or indifferent. We may be then assured "the best is yet to be." Ac-

tion is a normal healthful impulse.

The material myriads of tiny size, unknowing, uncaring — a universe to be made by this plan, could there be a more mysterious problem to solve if there was not an Infinite Mind to open the way and provide the method which must guide the whole purely automatic process with unerring results and unerring precision?

Each atom a little system of activities in perfect balance; no coöperation that did not share in the equal give and take; no change which was not mathematically fair for both sides; no limit to any interaction except that one inter-constitutional one; no possible disturbance of perfect equilibrium, all mechanical laws and provisions ingrained in each structure — what could have happened in a blind physical world except exactly what did happen?

The workers closely akin, if not at first as alike as peas in one pod, all of one household; but each exterior to all of the others, all with outreaching fingers differing in vibratory rates and degrees of force, almost every mass of uniting units would soon become differentiated from every other. Solids, liquids, vapors, all in due time.

Every atom could reach out to its neighbor; but not one alone could move or change its own center of gravity. There must be complex alliances for the production of locomotion of any sort. The revolutions of atoms or molecules or worlds could only

arise after interactions had become so general that comparatively solid bodies had formed tensions with their interlocked forces mainly occupied with each other, with a corresponding offset of the less restricted movements of fluids and gases and atmospheres. The more stable combinations, the elements of science, the building stones of most visible and tangible substances, would have found their best fitting helpers; multitudes of somewhat isolated masses would have arisen, many heterogeneous combinations aggregated.

It is useless to ask after the successive exact details of process. Everything must progress in consistent order. Beyond that there seems to be no reason why exactly the same types of advancing should arise in the different worlds or even in the different parts of the same world and in the wide intervening spaces. Many things lead to the conclusion that elements developed their unlike combinations, producing immensely different states of energizing, and the supposed absence of heat in the vast reaches of interstellar ether hold to their own usefulness intact.

One certainty remains. No unbalance has resulted from any modes of coöperations. Expanding forces shut up within too close limits, like freezing water in a strong vessel or in the hollow of a stone, may break iron or stone, or shake the earth or force an outlet by volcanic action. Such apparent mishaps

are really interactions in the interest of perpetual equipoise. So are accidents of all kinds. They result from threatened unbalance of some kind. The fall or the hurt is the consequence of the unintended unbalancing. Catastrophes are warnings.

A magnet attracting to itself all of the bits of metal after being played with a while may suddenly be seen to drop off everything that clings to it and actually drive them away; the polarity of the magnet has been reversed; its pull has become a push. Every pulse or wave of movement has its normal duration and is doing its own work.

To be able even partially to explain what already has been accomplished so far as history unfolds it, in the prolonged onward and upward trend, should be prophetic of the future. As far as it goes, explanation is unanimous in its most fundamental features.

There is much variation in degree. Is there in kind in the world of relativity? Dependent relativity of the finite, as in all theories, is fully accepted, though not carried to legitimate conclusions.

For me, I see in psycho-physical Nature the propelling forces of one continuous scheme of interrelated energizing. Automatism does its work under the guidance of correlation structurally enforced, the structure itself devised and initiative, impelling force supplied by wisdom Infinite or finite, the struc-

ture is a mechanism, and the interaction mechanical, and they obey the laws of mechanics automatically.

All other activity is conscious volition, or constitutional reaction with consciousness. Each primary unit is conditioned potentially psycho-physical, because as a derivative of infinite Beings potentiality must possess rudimentally the essential properties of Beings, though in many of them the higher properties may never be called into exercise. Created being, in its finite degree, substantially is infinite eternal, is infinite infinitesimal unity modified in its activities and in its structural modes.

Each finite individual beginning, as conditioned in structure which is endowed with persistent correlating force, first does its own mechanical work, evolving the physical into coöperating aggregates, and consciousness emerges only when correlation calls it into exercise and development.

As light with its negative darkness, water with its automatic versatile helpfulness in thousands of ways, and its unparalleled possible destructiveness, yet works in charming correlation. Good and evil are twins. Born without water, the whole world would die and if its normal properties were different in any particular there would be suffering and loss. I believe this is literally true of every other partial cause of suffering, of every such influence, including all ethical good and evil, right conduct and wrong, even

if grossest.

And where is the dividing line between the creating of that fundamental mode of process and the carrying it onward by the methods and within the limits provided and assigned for endless evolution.

Any two waves meeting front to front or side to side must be mutually repulsive unless they are adapted to blend and become a greater wave or pulse. Nature's pulses are actions and reactions, local adjustments of coöperations.

All action is force-action, but force is not an independent entity; it is a property, a phase of ever-existing being, is the active element in every phase of being infinite and finite. This means that force acts as that phase of being helps it to act. Force is no more self-directed than isolated; the substance to which it pertains, when relative substance, determines the amount, the directions and the modes of coöperating forces; it does this whether the action is automatic or voluntary.

The relations of matter are comparatively few, easily adjusted and readjusted in added correlations, and all inorganic processes are relatively far less complicated than organic processes. The impulse to act, and to act in combinations, is the leading impulse in world-building, checked and regulated by the innate necessity that substance and its own quota of force remain undiminished in quantity in all coöperations, though all correlations may and consti-

tutionally must, increase in quantities. This most influential of all constitutionally provided measures for the increase in varieties of progress and their resulting values should be particularly recognized.

For the present investigation it matters little, either to us or to the world-builders, whether they reach out towards each other till they meet in their mass-forming, or whether our atmosphere or the ether, which seems to penetrate all finite substance — acts, as medium between co-workers. It is the real facts of coöperation which are of unfailing interest. Science will never cease to try to discover them, but whichever may be the method, the coöperating relativities will work in strict correlation. The absence of light prevents seeing. Light mediates between seeing and objects seen. Some minute elements can be seen only when highly electrified. It must be unwise to assign any one object or method as sole cause of an effect. Causes and effects in Nature are alike correlated causes and effects. It is exactly this versatility which derives them from absolute causation, which is and must be the action of One — the result, Nature's least units, constitutionally indivisible as units unless Infinite purpose should choose to annihilate itself.

Finite action, always interaction, may become as manifold in correlates as there are possible new combinations among the directly coöperating units. When we recall what twenty-six (26) letters of the

alphabet can do in new combinations, we shall be ready to admit that never to all eternity would Nature's units find it needful to repeat any process twice; still, as repeating establishes habits, tends to ease action, repetition has a powerful influence either for good or evil. The revolutions of the worlds help to maintain the equilibrium of their entire contents. The little but mighty world-builders are upheld in their work by billions and billions of invisible threads of interaction.

One other claim must be made. If relative force is structure guided, each individual least structure should be complexly correlated. As a wheel and all of its spokes revolve in ongoing successions when adapted force is applied to them, because the wheel and its spokes have been relatively constructed to revolve, so all matter should be constructed in physical correlation, and thus enabled to coöperate easily and economically. So it has been.

Are not many of them unmistakably showing that they have been so constituted and endowed? They simultaneously coöperate in many different ways. Minute as these builders are, their coöperations seem to outreach from each one as the center of its own action outward and outward in every direction, even to the outermost bounds of the universe. Evidently, extent is not a measure of force. Kind, condition, immediate state of its substance, assuredly determine both modes and amounts in all finite energizing.

Finite mind has no appreciable self-extension.

By such progressive, orderly, ever-coinciding activities matter aggregated, produced masses small and large — many of them of one type, but also of many unlike types — classes and heterogeneous masses, in which one might well be unlike any other in the whole group, in the entire universe of matter.

Who has ever seen two stones exactly alike even to the normal human eye-sight? Under the microscope they would certainly differ in form, probably in size. Microscopes are said to have found flaws in the most perfect gems submitted to this test. That proves nothing except that unlike sorts of substance, with like amounts of energy in immediate action, do unite in producing individual forms. The intruding action of foreign substance perhaps produces a crystal, not perfect, but the foreign matter has succeeded in leaving traces of lovely color enriching the whole, which would be colorless crystal otherwise. All masses are much helped or hindered in their formations by various activities among the uniting partners, but diversity is a grand, lovely goal in itself.

The marvelous diversities of all kinds and conditions among the great worlds and in everything produced upon them, could hardly have been unintended when Nature's units were created by means of their interior like, or at least similarly diversified, correlation. All energize each as one unit in perfect

equipoise. The universe is literally one indivisible universe. The least and the greatest of created units are the products of one all-comprehensive Intelligence. Purpose, in its inmost nature, is as individual as action, as thought, as feeling. The Creator of all must be infinitely One, indivisible and Ever-existing.

VIII

LIFE, MIND AND ORGANISM AT WORK

THE making of the inorganic universe was little more than house-building of the many mansions and their furnishings. Each unit did its appointed work mechanically. Neither life nor mind, nor organ-building, made a part of the process. Aggregations of many sorts united in such masses as were adapted to help in the structure forming. Every new correlation added to an older one, produced its normal, modified properties and processes without change in the prior one. Everything helped in maintaining an ever-moving, increasing equilibrium, and the new but wholly unappreciated gains — all of them qualities of matter-extension, being and motion, the onreaching activities of substance and its extensions.

Creative Mind had made everything ready and able to do exactly right, exactly as prepared to do, what it is still doing for material nature. It has never been found that any present action, whatever its own new values, has ever discredited its past; so the upper rounds of a ladder find the lower rounds honorably indispensable.

To prove that finite lives and minds are derived from absolute life and mind, little more is needed than appeal to the unique exclusive property of individual life and mind, to the personal experiences which not even any other mind can share. Each mind asserts itself, proves its own existence. Even its atomic correlates, its material *Soma* (its atomic material body) cannot share its living sensibilities, but responds to them only by extensive correspondences.

Each Soma, our theory maintains, is the immediate executive of its own mind. It is by means of this inseparable material factor that each mind puts itself into communication more directly with its own organism, and by the help of its many-functioned organisms with its outside environment.

Action includes equally motions and feelings. When a finite mind is evolved, mind and Soma become the two phases of one action; but each retains its own characteristics. Feeling is not motion and motion is not feeling; it is certain that both exist and act together.

In other phrase, mind is not matter, matter is not mind; but there are many shared processes which seem to prove that Nature's least units are all of them potential, mind-matter, inseparable units and are internally related in the individual structure of every primary unit. Mind is the basis of all relative being. Matter is infinite Mind's presence and

force narrowed down to presenting extensions and motions, working in dependent correlations.

Nature's actual processes have left their own records. The sole appeal for all theories is to their testimony; if so, matter preceded mind, and mind appeared in prepared correlation. Why was that? What probable reason can be assigned? Was that long accumulation of action and its accumulating differentiated wonderfully beautiful and powerful objective essentially necessary preparations for the coming of sovereign mind to its own? Is each unit of mind part of a total coming to its sovereignty in its own universal domain? Mind is proving itself to be the world's sovereign.

Unquestionably, when relative conditions were prepared for it, life hitherto unknown, and productions hitherto unrealized, tendencies in remarkably new modified activities and forms actually appeared. The complexity, the heterogeneity of everything, was multiplied progressively.

In the inorganic era, the correlated united and parted or remained in masses of all kinds, as automatic agents ready to accept first-hand opportunities and help each other when and where they could. The inorganic domain is still in action and holds its own methods; but is repeating and repeating processes already won; it also does its own share of work in organic coöperations.

The dawning of life was inaugurated by a radical

change of process. The economy of all interactions where life as mind would participate was fundamentally modified, though the automatic was unchanged.

Nature as yet had produced that which was entirely suited to become the working correlates of intelligent mind with its living feelings, sensations, thoughts, purposes, in endless accumulating individual experience. Process must now be so elaborated that each mind and its *Soma*, its material half, could coöperate in ever-increasing harmony and mutual helpfulness. To achieve that possibility in all of its kindred qualities would invariably necessitate a new type of mass forming, the organism. Simultaneous complex series of processes beginning in unity, dividing and reuniting in new combinations, all of them merging and coöperating with varying degrees of intimacy and of differentiated activity, combined in one organic unity. That organism and all of its interdependent action must also work in coördination with the environment, must itself begin to be as an organism, must increase to maturity as an organism, do its adapted share of work and because of the multitudes of foreign complications essential in the scheme of evolution, must gradually loose its close efficiency and fall back into the prior unity of elements.

All this Infinite Mind had provided for to the last detail.

In the simpler days one organic mass forming each

class of compounds manifested like properties. All classes were large but little removed from the substance on which they were based and could rely on instantaneous help, as long as it was needed, from its still more free and versatile environment.

Now in the higher dispensation, substance and force, which should build the new organisms, must be given special modes of transferring them into mutual interaction in the new organisms which they were to build jointly under the stimulating influence of its dawning life and mind.

The stage setting was complete. If the records of that period have been read aright, the earth then was a sodden world, almost overflowed by water. The waters dissolved mineral elements containing the right substance and forces when united in action to individual bases, for the forming of the new one, called organisms.

Together, by the methods that may be condensed under the terms digestion and assimilation, they transformed lifeless matter into living matter, the little one called primary plant or plants. Finite life had started on its long process of finite mind evolution. A new little system of adaptions was uniting still almost automatically life to the creative level of feeling above the level of simpler structural action.

The new organism added and used its materials, brought to it by the moving waters; and as it en-

larged, it divided and redivided itself till one celled organism, multiplied and multiplied.

Production and reproduction, virtually one process, transmitted to descendants by various types of division between parent and offspring.

Everywhere it is the function of the plant to convert non-living matter into living matter. Every organism is composed of what is called living matter. The food taken is worked over, the useless parts excluded and those fitted for organic helpers are quickened into nascent feeling, much as substances fitted for burning are quickened to a blaze in its partnership with another blaze.

Let it be noted that this is an explanation of process admittedly established and accepted by well-founded experimental science. The general process, as I understand it, though it does injustice to none and is probably in some sense helpful towards the greatest good of the greatest number of new individualities still mindless, though living general organic matter, can hardly reach the height of more than a nascent consciousness. Each new organism is apparently a combination in the interest of one mind in the one-celled organism; possibly also in one organ of an advanced organism.

There is too little real knowledge here for dogmatism; but apparently mere living matter enters the arena of organism, and in due time may step out again into the inorganic without self-recognition or

gain.

In all organic partnership it is claimed that such organism is but more or less temporary, a less or more complicated system of allied organs, each partially independent in itself; but all coöperating in one larger unity, the one complex but divisible unity. The one leading mind, in the interest of which all the rest are coöperating, is not directly working with most of the more internal organs and processes, as digestion and circulation, breathing, winking (with the instinct to close the eyelids to ward off danger); it has indirect power to regulate, none to discontinue normal processes.

With the special senses, adapted feelings are the leading impulses in organ formation and exercise. The work is chiefly automatic.

In the large range, mind and organism are mutual co-workers, more or less indirectly related and mutually dependent; and the intact individuality of no one of Nature's least units is in the least degree intruded upon.

Its own differentiated structure enables it to do its own share of the work in perfect harmony with a normal organism.

We return to the early unfolding of vegetation. In locations where conditions now remain nearly identical with the state of the early world, the little one-celled organisms still live as descendants of their long lines of ancestors, and they are almost un-

changed in their characteristics. They live and propagate in balanced relationship with their environment. Others unite into little helping systems with their nascent physical organs, each adapting itself to some needed work for the gain of the community as a whole. Low types of life are as docile as the automatia.

As the waters receded and the lands were drier, the plant migrated, seeds were driven by the winds, doubtless sometimes reaching onwards their roots spring up as new descendants able now to live independent lives.

Nature, to this day, is steadily bringing the required growth elements to its located plant children. Roots find nutriment in the earth and send it to all parts of shrub or tree. Sunshine feeds and colors its leaves, its growing bark and limbs, the beautiful forms and colors of its blossoms. Adaptation, adaptation here, there, everywhere. Multiplication of descendants by seeds, by several diverse processes — the earliest indication that it is illogical to expect that any grand division of ongoing in a universe of endless interaction is likely to be produced by the same identical correlations from first to last.

Plants live; how much they feel and enjoy, who shall say? That all of Nature's least units have potential life and mind seems then probable, since they are the immediate derivatives of Creative Life and Mind. Whether they will ever attain that

height is entirely another problem. Life is their basis.

Plant reproductiveness is a standing marvel, though it attracts less interest than similar function in the lower ranges of animal life, as animals on a higher step of the ladder are nearer akin to humanity. If we can so turn the face of Nature's mirror, through which we see as through a glass darkly, instead of holding that wastefulness prevails in the superabundance of infant lives, all of which could not possibly come to maturity without fearfully overrunning the earth even in a few decades, we should realize that in all that province of early life the best conceivable of nicely adjusted, ever-advancing system of economy was there successfully inaugurated. Without the abundance of seeds and structural divisions, with budding leaves and productive flowers, — the leaves not for beauty merely but to enrich both the mother tree and its prolific blossoms — the whole tree and its offspring are the necessary first steps to the animal platform; the animal is the legitimate offspring of the plant. The early animals had nothing else to dine on.

We may forget that there has ever been sacrifice of the less for the larger. We should see only an ever-upward climbing army of immortals, and perhaps the angels still passing up, and still occupied in their line of social service. And has there been any real sacrifice? Wherever kindliness and good

will reaches up, or down to the lowest stages of life, the briefest and dimmest life must have been better than no life; and death, as most of us interpret it, is only the parting of the organism into its original least units, leaving them all free to reunite under gainful conditions and take another step higher up.

Thanks to the patient, careful, scientific investigations under difficult conditions, we know that the young organism, when it has added to its growth but a very little way, repeatedly divides itself and then recombines; but it is not the combining again of the same parts that separated. No gain could arise from that. Each part is adaptedly correlated, and new foundations are laid for a more differentiated organism. Each tissue begins to do its own work, each organ organizes itself and performs its own function in the general economy, and yet together, all together, they go on to build up the type of organism to which they all properly belong. Toad activity never builds an organism suited to the bee and the busy bee knows exactly how to successfully make its own hive in the decayed hollow of a tree, how to make, that is, gather from the flowers and then to elaborate into a good keeping and nourishing condition the prepared food supply for its coming dependents.

The instincts of animals, and eminently the various instincts of unique kinds, in a hive of bees, have been difficult to comprehend. There are two classes

of facts which if taken into account must certainly help to simplify the problem. One is the accumulating structural adaptations that each new relationship adds to former ones, perpetuated by inheritance. The other is the growing corresponding adaptations in the habitual mental experiences in the different grades of the bee colony. Feeling and mechanism have been advancing, not side to side, but intermingled in a common process leading towards one result. Together they have got there more effectively in the insect world than anywhere else. Though the same principle of mind and matter correlation must have been in coöperation when life was only pure feeling, without intelligence or conscious purpose.

Simple matter, structure force-endowed and structure directing, needed nothing more to guide its processes. That type of forces impels to action of any variety, all equally acceptable. Matter's forces are as mindless as substantial material structure. Mind-created, endowed to act as they do, Creative Mind is their real though not immediate director. Force in itself is the simple unconscious impulse to act. Whether the substance in which it inheres is mind or matter, is absolute or relative, it is the substance which directs its property, force; and if the substance is unconscious matter — a true structural machine — it is the relationship in the structure which guides the innate impelling forces.

But feeling, however low and primal in kind, is a

living real desire of its own kind, which nothing but its correlated object can satisfy. Also the satisfaction is for a brief period. Desire, appetite, is a recurrent feeling, the feeling impelling to a definite process. All process is reinforced, as the great river is fed from the rising springs and small streams.

All related force being double-sided, gains or losses of values arise in correlation; with living force it psycho-physical relationship.

The queen bee, specially nourished, develops maternal functions; drones and workers, like automatic action constitutionally impelled, with the advancing necessities of the growing hive, also develop their special functions in adapted demand and supply.

The physical may initiate mutual advance. Structure guided in the primary unites, mind remaining latent age after ages, while the physical works onward; the physical correlates of each latent mind might forever remain in the physical plane with no injustice done, no discontent and effective service rendered.

Intelligent mind, however belated and slowly evolved by almost imperceptible changes, even after life has dawned, widening into many grades of consciousness — all of which must lead the physical and become the only finite initiators of changes, above and beyond physical changes, mind, feeling of all kinds — must lead motion of all kinds. Motion and feeling are primarily conditioned to arise together

with real dependent meanings. The immediate perception of relations obviously unites them in a class. Inherited tendencies include the structural adaptations, by a perfectly accurate stroke to a given point, as when the solitary wasp paralyzes food to be eaten alive by its unborn offspring or the direct flight of a honey-laden bee to its hive, includes direct immediate perceptions. Sight or insight, it is a definite individual apprehension, a related structural direction, or both acting in correspondence. Instinctive action is immediate.

The uniting bond may be called inherently derivative from the Absolute, even in related structures. No two substances or processes become one for even the briefest time, unless they unite as equals in every phase of their union. If they cannot, they mutually turn aside, generally with indifference; in cases of excited action with positive repulsion. The claim is that the mutually shared impulse, the instinct in matter it might be called with but little exaggeration, the mutual impulse in opposite forces, either unites them or prevents their union, as they are adapted or non-adapted. Attractions and repulsions are equally the products of coöperative forces. Every material change is the product of opposed coöperative, immediately fitted or unfitted to enter into direct alliances.

In other words, all of Nature's least units are conditioned by mutual relationship and mutual non-

relationship, and every possible process is some kind and degree of coöperation produced by corresponding activities in distinct individualities.

The least unit is itself structurally differentiated, that is, self-balanced, in parts and as a whole; and all of its activities necessitate continuous united balance or else refusal to coöperate in all unions of all kind.

Delicacy, refinement, magnanimity, sympathy, good will in all of its manifestations, even at the expense of self-sacrifice, like the beautiful in all of its enchanting phases, are the natural outgrowths of adaptations, and their shared activities. The best indicates itself and becomes accepted. "Ever the truth comes uppermost and ever is justice done," because everything has been made on that principle. Results inevitably follow causes, so that the wrong course brings the undesirable, the right course the desirable. The universe, from its center to its circumference, in every item of it has been constructed on exactly that principle. It is the principle of perfectly just but pervadingly generous relativity in all psycho-physical worthy partnerships. And perversity, blind as it tries to be, faces its own defects in all wrong conduct. Mind cannot sin quite blindly.

Instinct must be something more than habit inherited for generation after generation.

The instinct that takes the honey-laden bee, after it has zigzagged in every direction in its honey seek-

ing, in a straight line to its hive, and teaches the solitary wasp to paralyze without killing the living food made ready for its unborn children with unerring precision, needs more than habit inherited as tendency or otherwise.

Nature's coöperations in all of their phases illustrate the perfection of an ever-moving equilibrium. There must be in some creatures a remarkable instinctive sense of just where the balance in opposed directions can be found and utilized. This sense of direction must be an immediate perception, something like the insight which enables us to recognize logical thought relationships.

There is a sense of immediate relative direction. Ours is a sense of immediate mutual connectiveness.

When life, and its living modes, feelings, come into action, the structural impulses are not abated, but there is added the imperative of an individual life impulse either active on one side or on both sides of the process, when two or more living individuals become concerned in any coöperation. We all know that individual attractions and repulsions are generally mutual, and that a comparative state of negative or indifferent feeling is the usual relationship which exists between ourselves and the majorities of those whom we casually meet. Almost any special incident intervening brings us nearer or drives us more or less consciously apart.

Briefly, constructive relationship is an ever-active

coöperation of diverse forces. The relative is a completely systematized interaction and action is as continuous in the relative as it must be in the non-relative.

The intuitives of self-balancing in ourselves when anything tends to disturb us, as a blow or a shove, the quick closing of an eyelid against any danger, the putting out of a hand to guard ourselves, is repeated in every tree, to some extent in everything that lives. It is the instinctive sense of self-protection while still maintaining organic balance. When a fall results, that, like larger catastrophes, forcibly readjusts the threatened equilibrium.

With the advent of the mammals the mother becomes the medium of food supply. The instincts of parental love and social sympathies have correspondingly developed. Most animals become gregarious and manifest their various types of intelligence with a corresponding diminution of the merely physical instincts.

At every stage the physical and the mental have unfolded together, have unfolded in some kind of mutual dependence. It remains to decide the nature of that dependence. Do mind and matter each work independently on parallel lines, yet working towards the same results, or when mind (intelligent life) has grown responsible enough to take the directive guidance of matter, is it correlated with an atomic body

of its own, a true mind-matter unit?

Does this atomic, indivisible body, the Soma, mediate between its mind and the organism, and the organism extend the psycho-physical correspondences to the surrounding environment and the immediate environment thence onward to the outermost bounds of interactive partnerships?

There is no question as to the *facts* indicated. The subject matter is purely a problem to be solved, a vast body of facts to be interpreted.

The parallel between insight into the relationships of abstract mathematics and logic, and the apparently immediate perceptions of material relationships manifested in insects and birds and in some degree by all animals including mankind, to me seem unmistakably kindred and grounded in the physical constitution of Nature's least units. It is a practical recognition of relationships, a sense of the relativity in finite forces.

This sense of relations, like the other senses, increasingly used at every stage of progress; they all usually increase by almost imperceptible stages and variations from the vegetable to the animal; and with each advance there is usually also the division of functions with the corresponding increase in organ-forming.

With every type of physical gain arises the related sensibilities, first apparently the lowest types of mere desires, like the craving for food, the satis-

faction when Nature directly supplies it to that type of digestion, then recurring demands.

Reproduction by division, by budding, by roots, by flowering and seeding in plants; has nearly parallel modes in animals as long as the food supply is abundant and needs little or no exertion in seeking it. The minute animals increase in size, many become amphibious. The great lizards and their kin sprawl about everywhere, huge and sluggish or combative with few desires, few differences because they have few motions impelling to new attainments.

With drier land, trees and shrubs increase in size and kinds, insects and birds take higher forms, more symmetrical and beautiful forms, higher instincts, increased activities.

IX

MAKING A PSYCHO-PHYSICAL WORLD

IN the beginning of Nature all of its activities were potential. Its structure and its endowments were put in relations, the methods of all activities were determined. Everything was ready to begin; but the whole scheme of relative activities was to be a progressive ongoing, not at all a completed universe finished and set to running, like a clock needing only occasionally to be wound up. That theory of Creation would be in everything out of accord with the facts. The large and completed masses all waited to be formed.

There is no question about that much. Life on earth did not appear until preparations had been going on for ages and ages to get the earth ready for the convenience and use of life and mind.

Probably for one reason matter and its structurally balanced modes of motion were quite able to do the desirable work and they were to become so firmly established on a basis of equal action and reaction, that nothing could arise to disturb the universal equipoise. That much could be best secured through exact mathematical relationships.

When the simplest related processes began, they steadily increased in complex interactivities. Diverse relative substances were formed, each type evolving its new properties. Masses of many sorts accumulated, systems of worlds slowly took size and shape and began their diurnal and annual rounds repeatedly, carrying with them their wonderfully differentiated contents. Gravitation held them all in place or sent on their appointed pathways — all the growth of coöperation.

Lo! it was done — a universe, a material universe, all of its structure-guided partnerships of ever balanced motion had done their appointed work successfully.

The materials used were changeless, ever-existing substance and ever-achieving force with its new processes and properties, also called substances. Now the same Mind which had wrought the miracle so far was to introduce force of a new relative type. Feeling was not to replace motion but to work in coördination with motion, to engage in different and higher kinds of work and yet to so adapt itself to the advance already made that in material things it might carry forward and increase physical progress and in doing this would successfully unfold its own living Nature and become itself the gainer of an ever-accumulating, self-appreciating experience. A personal consciousness, which might introduce endless series of living, felt, ever widening values as the

recompense for helping in an otherwise magnificent, already accomplished, great automatic work. This was surely something to strive for. It was the acme of the whole scheme.

But, like matter, it must begin at the zero of action, of personal life. There must come to each life the first faint quaver of sensibility, and the quality of the life each one must attain depends upon its coöperative, material helpers. Relative life was born to a life of mutually depending relationships. If an heir to a living consciousness, it must be a consciousness in perfect adaptation to its surroundings, and of the type of life to which opportunity entitled it. Could Mind-absolute become mind-relative otherwise?

At the beginning, life, like matter, had no choice, perhaps never attained to any. If it never became burdened by conscious responsibilities, it also would have gained no intelligence, no burden of regrets, dissatisfactions or remorse. Like everything else, so every life was fitted to its station, all of its requirements justly, mercifully supplied. Intelligence gained, its destiny was put into one's own hands.

Though mutual partnership individualizes the correlates, the social need of interaction is the only means through which processes can be carried onward and be equally imperative with personal action.

Co-working provision impelled to the formation of the inorganic masses. Feeling impels still more to

the production of the organic body, as force in feeling is more imperative than force in motion. The more intense the feeling, the greater the impulse to realize its desires, as rapid motion is more efficient than a slower motion; so of feeling.

Throughout the whole range of changes when life has once gained its place in the scale of ongoing, feeling and motion work together in a true correspondence of modes, slow feelings with slow movements, rapid feelings with rapid movements. In every phase of their coöperations they vary together in modes like true correlates.

As relatively created, it is certain that as matter has done all of its work in correlations, matter with matter, so mind must work in correlation with other minds, each unit of mind like each unit of matter, as primarily conditioned mind with mind in its atomic constitution.

What then should prevent our acceptance of the conclusion that mind and matter are potentionally correlated in every least unit of Nature? Every other known process is relative throughout. Why not this?

Wherever the ends in view can be best secured without the intervention of related feeling, Infinite Wisdom has conditioned matter to carry on its far reaching purpose by the best, simplest, possible, and the most economical methods.

Let us at least assume as an hypothesis that in

each primitive atomic structure insensate (possibly not wholly insensate) matter was conditioned to take the lead in universe making — chiefly a work of aggregations, of different substances; but when all is prepared for the evolution of personal minds in each unit where mind in any degree is to be awakened, the two non-convertible types of action — each type now doing its own part in every associated action — the unit becomes a living mind-matter unit, a psycho-physical true individuality.

Mind at once begins to do its own work, but by no means in isolation. The mind-matter unit lives; but the feeling is in the mind correlate, the motion in the matter correlate. Henceforth, all changes are to be doubly phased by simultaneous mind and matter correlation in one and the same process.

The great new achievements are to be still more closely allied as a social, many-phased partnership than it was in the union of matter with matter in material masses. There, each combined unit assumed its changed properties, always the same in kind in all like compounds, to drop them again when decompounded.

Now, with the added life, the earliest, new-formed, compound mass is a living cell. Each unit seems to have helped to quicken its cell into nascent life. The cell absorbs nutriment, which adds substance to its physical structure, and to its corresponding double-phased unit of motor-feeling.

The entire cell takes part in the process of digestion, assimilation, growth and reproduction-divisions into independent new cells.

Mechanical matter, the senseless product of applied mathematics and logic — a bundle of uniting angles is transformed into living flesh and curves. The crystal has become almost as soft and plastic as the water or air, both of which enter conspicuously into all organisms. The little cells breathe, live, multiply, apparently begin as necessity impels them, to feel the advantages to be gained from union of effort with division of duties. Some cells remain united, one set attends to the digestion, another to food absorption, etc. Step by step, tiny, very tiny moves onward, new organs begin to specialize. The still unknowing eager life is not left to grope its unknown way unaided by automatic stable firmness. The plants that are to become shrubs and trees take roots, organize trunks and limbs of more solid substances. Water plants lengthen and float or sink to adapted levels and go on continuously as they do to this day, producing the transformations between minerals and vegetables.

At the same time animal life, with its methods of free locomotion, its adaptations to absorb and utilize vegetable tissue, its growing instincts leading to the selection of the more desirable foods and to the utility, confirmed and made pleasantly satisfactory by habit, of division of labor, have increased the

formation of more highly developed organs, and with the specialized organs the union into a higher and higher, more variously correlated interactive organism.

In these advancing animal organisms life has become mind; its degrees of sensation and perception have grown in perfect correlation with the growth of the organism; and the organism has grown and differentiated in correlation each with its environment.

We have come now into our own era. We are no longer wholly dependent upon past geological and other records for the knowledge of what has been. We have the testimony of our own perceptions and conceptions and the discoveries of other minds in regard to Nature, and its gainful processes can be made our own by proper mental assimilation. Of course, the earth is the world whose mental-material world-making we are privileged to study close at hand, though we already know that other worlds are made of about the same materials as our own and are often largely modifying circumstances.

As of the relative, judging from their structural constitution, are mind and matter in each primary unit one and indivisible? They are.

If based upon and inseparable as a part of absolute Being this to me seems to be the inevitable conclusion. It carries with it the possibility that all units of relative being, all units of matter, sometime

may unfold a long waiting personal consciousness. That inference recognizes a potentiality, though not by any means an innate necessity. Possibilities are not all realized. Matter derived from Mind by a progressive process, that possibility is presumable, legitimate.

Ever-existing Unity is not itself of the relative; it has produced the relative. Its activities are not motions. It has produced methods which necessitates motions as modes of relative material activity. It has produced a feeble consciousness in every relative being which has attained to individual life, and an increasing consciousness with intelligence, self-recognition and volition in varying degrees in the more advanced lives which have attained a distinct, ever-increasing, personal consciousness. All of these acquiring stages of growth have been won by the correlated help of many co-workers, most of them material, automatic and unconscious of the invaluable assistance which they are giving. There is no mental-material process in which many, many apparently unconscious material automata are not taking a prominent share. Their special help seems desirable, indispensable.

The utility of automatic action is self-evident; it is convincingly illustrated by machines of human invention. Do we not often realize how much mental friction one little pin ready at hand can save us when we are weary or in haste? One great derrick

can, with no sense of wrong or of fatigue, do the work of hundreds of human arms.

Think, then, of the immeasurable gain which has resulted from the making of the inorganic universe, by an ever-advancing process of pure mechanism.

Think of the advantages still available to all lives and minds from the automatic and semi-automatic action of the semi-detached organs of every organism. Could our gentle domestic cows lie down in quiet enjoyment chewing their comforting cuds after cropping the abundant grass, if they were obliged to superintend all of the digestive and circulating processes of their lazy ease-loving bodies?

For humanity, what progress could have been made in social, mental or moral gains if each one of us had been so narrowly conditioned that we must look to the action of every pulse of the heart, follow every drop of blood on its winding way all through the whole organism and see that exactly the properly adapted elements entered into heart, liver, lungs, eyes, ears, etc.; that every organ and structure kept just near enough to ancestral forms and dimensions, and still was enabled to assume the slight differentiations that constitute individuality and perhaps one least integer of advance in type?

This division of the discussion is fascinating, but the proposed length of this Essay will allow only a bird's-eye view of each division with an attempt to indicate the more essential allied points in ever-wid-

ening, coöperative processes. This one fact, that relative process is an ever-expanding, inherently differentiated ongoing and that in its primary constitution the endowed structure at the right crisis evolves each needed type of work and each phase of individuality in its own unit, all without a pause or a break, and by an ever-growing method equal to the amazing task imposed upon it, is the crowning marvel as well as the crowning value of Creation itself. It immeasurably more than justifies the infinite wisdom and good will which, instead of living forever within its own infinity, gave to each one of its myriads of dependants, all of them assuredly an opportunity for great usefulness, and to countless other myriads the responsible opportunity to emulate the goodness and the helpful good will and wisdom even of Infinity itself, in the endless outreach of eternal life. But the future is a sealed book.

As to direct relations between interactions within each unit which has attained to life or mind, my first appeal is to the personal experience of each reader. In lifting a heavy weight and then a light one, is there not a distinctly different feeling in the two efforts? One feeling is undoubtedly larger than the other, requires more conscious, real experience than the other. When we taste a few grains of sugar there is the perfect sugar taste. If we take a heaping teaspoonful, the taste is the same in qual-

ity but so greatly increased in quantity that it may even be disagreeable, a feeling of too much of a good thing. In a similar way, a musical sound in the same key may be delightful, if it comes with a certain degree of strength or spoken by a sweet voice; but chilling, startling, when over loud or in a sudden burst of sound. The Soma vibrates, its mind feels.

Almost every emotion, especially very strong emotion, enters into the human voice and into the voices of animals that utter sounds of pleasure or distress. The difference is fully recognized by the hearer. The gardener feels and knows what he is doing and why he is doing it when he scatters fertilizer and rakes it into the ground around his plants; he has no feeling of the correlation between the fertilizer and the growth of his plants.

The modes of motion in the sugar taken up by the mind's material correlate remain motion in that material phase of the mental-material unit, its Soma, its true body; but the instantaneous mental response is feeling. Modes of motion and modes of feeling are the two correlates in the indissoluble least unit of Nature, either potentially or actually. The mind recognizes that internal correspondence, it recognizes both the feeling of quality and of quantity. By practice it can give a marvelously accurate estimate of both, as illustrated by the tasters of teas, wines, and other commercial goods.

The other point is, that when the mind-matter unit reaches the line of division between itself and another or others, there personal feeling ceases; its causation goes on, the process goes on, but another correlation carries on the work. The plants and the plant food coöperate in the building of the plant structures.

A mind feels, almost unconsciously recognizes, the difference between its mental responses, its mental initiatives (thoughts and feelings) and its physical efforts. They are all differentiated in kind. The interrelated method under which they severally arise, often simultaneously, so outlines process that their diversities may be fully recognized only in their unity. Most correlations are several fold.

The plant, like lower types of matter and higher types of life, everywhere does its own work in its own way.

> "Man, beast and thing, reacts in character,
> One's deeds, his children, in his image born."

I have seen a horse, lately watered at a town fountain, tired and eager to reach the stable where there is a rest and food, when driven to the roadside and halted by a little stream of water flowing under a bridge, stamp and sniff in unmistakable dissatisfaction, not to say resentment and anger, and I have seen the same horse drink eagerly at that stream when thirsty.

All of the physical senses have their parallel lines of communication between the mind and the outer world, but they are the lines leading in and out through the organism. The ingoing line mediates between the presenting object and the receiving mind, the other between the initiating mind and the object. When one speaks with intention he is responsible for the sound; but the sound is literally produced by the movements of the organ of speech; he hears it as a noise, a feeling. So does every other mind. It is the mind that puts the meaning of the sound into the movements. One deaf and dumb, but skilled in reading the movements of the lips, can determine the meaning, can decide whether a solitary sound is a cry of pleasure or distress, by mentally recorrelating the motions of the lips and face, he can interpret the meaning of an entire conversation.

One deaf, dumb and blind, but with a keen perception of the differentiated varieties of vibratory action, can fairly produce by initiatives the necessary correlated movements and become so skillful in spoken language that, like Helen Keller, she may become a reasonably successful lecturer. This proves that thought is mind-matter correlated action.

Of course there must be a long progressive correlation of agreement between teacher and pupil as to the corresponding meanings between the varied movements and the responding feelings. All the same, every phase of sound vibration has its corres-

ponding phase of sound feelings, in spoken language.

Does it need anything more to assure us that the unit of mind and matter is in absolute accord with itself and its kind and degree of development? It is a constitutionally created unit, and its methods of evolution are psycho-physical in every detail.

But proof itself is manifold, and is in its diversity so great that it seems best illustrated as spread out almost over the whole of this discussion. Language at its plainest must be interpreted, for human agreements as to meanings can never hope to equal Nature's unchanging correlations.

The telephone is a purely vibratory structure. The speaker at the one end communicates vibrations to the other, the hearer receives them; but the speaker puts his meaning into the sound vibrative and the hearer retranslates the message into the meaning which was feeling, enfolded in the material tremors. The telegraph sends its messages simultaneously both ways along parallel lines oppositely directed and without collision of any sort between either the lines or the messages, which they carry onward and deliver with lightning speed. The intermediating lines are the common carriers and are essential to all communications except those within the correlated units. Where the mind feels, its Soma vibrates simultaneously.

The Soma is as needful for interaction between the leading mind and the rest of the organism as be-

tween mind and outside environment when the organism is in a normal condition, more needful when the organism is in abnormal action and partially dissociated, for then the material Soma, by associating itself with the automata — all of them doing their work with as much precision as ever and for the best possible advantage under then existing circumstances — holds the mind as fully and consistently as possible with such parts of the organism as can be made available. Without its material correlate and without the automatic help of some of the more important organs, the mind would be helpless, as it now is in extreme emergencies, like those which produce insanity. The Soma seems to be the transmitting medium in every process, direct or indirect, in which mind participates, and that process is a balanced psychophysical ongoing, the mind and its Soma doing a fair share of the work.

In absentmindedness — which usually means when the mind is trying to do more than one thing at the same time — and a familiar process is well begun, the Soma completes that process, giving very little of its energy to the subject with which the mind is almost wholly occupied.

Can a solitary instance be given where automatic writing, piano-playing or any similar performance has not been directly in the line of the mental habit or is the result of a suggestion made to the mind from outside? It is claimed that the automatic re-

sult is always the following up of a mental initiative. The Soma by enlisting some of the available organic automata carries on the work to a finish while it is still lending service to the more largely mental occupation of its correlate.

Doubtless it is difficult to prove a proposition like this and further discussion of this theory will be more fitting in the following section. It is necessary here only to call to our minds that pure automatic action, so far as the dominant mind is concerned, does have a most important share of the normal work of every organism. Most of the inner organs and their functions have a very indirect coöperative with the mind. The heart pumps the blood, the liver secretes, the stomach digests, etc. The mind has no direct action in concern with such processes so long as everything works smoothly.

The world that life, mind and organism are building in correlation is the everyday world we live in, is mainly on the surface of the earth and water and the surrounding atmosphere, and the buildings are chiefly the bodies of men, animals, and plants. So many of these have lived and died that the surface of the planet on an average for several feet in depth has been very largely changed from mineral to vegetable substances. Growing vegetation can make good use of this heterogeneous strata of soil as food for new growth.

There is no waste, no real destruction in Nature.

Every change helps every other change, each relative substance is grounded upon some prior substance.

Each organism illustrates this mutual dependence. Organic life is less permanent on the whole than inorganic masses without life; both are working combinations, but the internal tensions of matter hold their masses almost without friction. An organism, a combination of feelings and motions both far more rapid in action, more continuously changing partners and more varied in their modes, the marvel is that the ever substituting tottering organic firm is so long maintained.

Never exactly the same for two hours in succession, it is more a unit of many phased processes than it is a unit of substance. As substance, it is much in evidence; as process, it is unseen though not unfelt by the participating mind. Mind in all of the earlier stages of the acquiring consciousness is not largely analytic, nor given to prolonged investigation.

The result is that the tangible ever-presenting form has been taken as the principal representative of organization. When the form breaks up and the elements are scattered, the observer stands appalled, believing or fearing that all is lost; that mind, never seen, never fully appreciated, the nature of its sovereignty not comprehended — that it may have been snuffed out like a lighted candle, becomes the super-

ficial terror.

The eternity of process has not been a current teaching. The indestructibility of matter has been investigated, tested, and admitted. Physical science has too easily held the field. Religion has believed that sublime poetry is commonplace fact, that God spake and it was done, Creation completed; at any rate six days instead of sixty-six times (66) centuries and more completed the original creative process and organic life began.

A clear distinction between the actor and the action, science and philosophy have equally failed to make. The practical necessities of business, the actual use of measured force without which no accurate or successful mechanical work could be done, has brought force as an abstract power into a prominence which should belong only to changeless entities, not to an ever-changing process of a property, of an entity absolute and in amount changeless as force must be. Action is as essential as substance; its processes as never ending and substance without force would be a practical nonentity.

Force as working total is changeless; but in its activities, is the ever-changing action with which mankind everywhere is brought face to face. The organism presents the highest, the most complicated type of force process. If we can become convinced that process of all types in nature and in action is as unending as Being, as substantial Ever-existence,

we can no longer fear that finite feeling, once it has gained a place in Nature's evolutionary scale, can ever again drop out of activity, out of an eternal activity.

The organic manipulation of food cannot be supposed to divide the primary units which become organized. The molecules are broken up and readapted. All primary units remain intact everywhere, and in all combinations and coöperations inorganic and organic.

The organic molecule has more elements and is less definite both in the numbers and the kinds of its elements than inorganic molecules. Differences arise with unlike conditions.

The voluntary choice in the selection of food, at least in all of the higher organism, seems to belong in some degree to the entire elaborative and assimilative processes, so that the chemist is somewhat baffled in trying to decide what is normal and what abnormal in the organic constitution. The impossibility either of analyzing or synthesizing during life is another factor in difficult process of biological and psychological investigation.

But there can be no good reason why organic units or organic process, which is a coöperation of units, should be broken up at physical death, which is the natural breaking up of a partnership when it is no longer found satisfactory.

X

THE WILL AS A WORLD-MAKER

ALL essential existence, absolute or relative entities, have one inseparable property, Force, which produces all changes of all varieties.

Every relative being is an indivisible entity with many correlated faculties actual or potential which when in active correspondence may be checked by more or less antagonism, interior or exterior, so that their coöperations must either be modified or halted. The check, inter-active in kind, may arise within the primary unit or exterior to it. Thus mental feelings very unlike in kinds, as an absorbing process of reasoning or a deep interest in any important transaction, must negative any unimportant or pleasantly frivolous interest. Here the mind's Soma is needed to intervene to maintain the general equilibrium between the mind and its organism and keep the general organic processes in continuous coöperation. The mind, if only a mind unit, would be incapacitated for complete supervision and coöperation, while the Soma, on the one side taking its cue from the mind and on the other working automatically with the

organic automata, is exactly adapted to do the best possible to be achieved under all similar circumstances.

The ever-existing property, Force, inseparable both from absolute and relative existences, is also inseparable from all processes; it is in everything which has reality of any kind, whether that entity is Being, a property or a process of being; it is as true a property of the relative as of the absolute. That absolute and universal property is Force, but in the nature of things it cannot be a genuine abstract.

The modes of force-action must be as radically unlike in the absolute and in the relative, as inferior in kind and less in degree as a relative unit and its correlates are infinitesimal in comparison with infinity.

Every new combination of substance produces a new correlation of properties which continue so long as that working combination continues. The new manifested property arises as the union of opposed unlike force processes, is alike in all like combinations and ceases to be whenever that combination is disunited. The combined substances are temporarily one, also their united processes appear as one presentation of property; the active forces have become one united force in one united tension; we see them as substance by sense perceptions; they are specialized substance, but their forces are internally

working in mutual opposed correlation and in many ways can be proved still to exist and to act in unbroken continuity.

It has been held that force is separable from substance; but that claim has never been proved. What mode of force has ever been separated from material of some kind? What material has ever been proved to have been robbed of its own quota of inherent force?

Substances exchange modes of force.— That mutual exchange is their constitutional method of obtaining new modes of process.

Burning, cremation, scatters both substance and force; does it separate them? A pile of cinders and other left-overs after intense heat, may seem worthless and forceless. Have they been proved to be so? Heat can be obtained at any time from any substance by friction; and every substance seems to possess an unlimited amount of heat, given the adapted modes of producing it, its possibilities are there. Given the right methods of producing, every mode of force seems unlimited. Has any substance ever lost its force?

The Sun is losing radiated energy, has it been proved that it is losing force? For centuries electricity was unknown as a mode of force, mighty as it now proves itself to be. Now it is not only found to exist but other modes of force are transformed into it.

The moon is called a dead world; but it is able to produce orderly continuous ebb and flow of our ocean tides; it does its fair share of the work in all world partnerships and its own motions go onward in repeated cycles far more closely alike than our own repeated memories.

If force is a property of every substance, not an entity by itself, it must be under the guidance and control of any substance to which it immediately pertains; its activities must arise in correspondence with the changes of its own substance and also in correspondence with its associate workers.

Matter, guiding its forces by structural conditions, co-working forces are as adaptable as their structures. When Will, which is force allied to living feeling of some kind and degree, with selective instincts or voluntary selective intelligence, it follows the lead of the special stage and state of the life or mind to which it belongs. If this is true, outside of absolute Being, there is no absolute free will and Will like every other property of relative being works in coördinated relationships. The freedom is mind freedom, Will the selective factor.

Two very different meanings attach to the term relative. The " merely relative " means the common comparative measure of some quality of two or more things where the property on either side is not definitely determined; it does not attempt to find anything more than a proportionate relativity.

The applied principle which correlates everything in Nature has an entirely different function. Whether we do or do not perceive and comprehend Nature's allied facts of all kinds, under like conditions, they are always alike in kind. Constructive correlation has like action everywhere.

The truth embodied in the universe does not depend upon our knowledge of it. Truth is as essentially changeless amidst all of its changes as absolute Being and absolute force. Force process is as persistently continuous, as ever-existent Being and relative beings and their processes are absolute substance and absolute process derivatives. They are absolute substance narrowed by added relations. They limit, individualize and specialize each being and all of its changes.

This means that every life and mind must control and does control its own Will and that it is free to do this; it places the emphasis of action upon each personality and reduces the Will to one faculty or property of life and mind. All properties are forceful.

As some degree of self-consciousness seems to arise very early in animal life and volition manifested in the selection of food is the earliest indication of a will and seems to belong even to plant life, I shall discuss the action of the *Will* in its relations to personal minds. Minds like matter have class variations and personal ones, but Force is the all-com-

prehensive, unresting action of every mind, infinite or finite. In ever-existing Mind it must be treated as the absolute active property. In finite minds it is the associated action in every property of each mind. Nothing is done, can be done, without the help of force — the one essential principle in all changes.

Matter may exchange equal quantities with unlike qualities and any two substances may unite in widening and raising variations by their united process. Like attention, force is the necessary accompaniment of all feelings because feelings of all types are mental changes.

Mind with its increasingly many conscious necessities and its corresponding efforts to obtain what it needs or desires, and its constitutional freedom to seek for whatever it wishes to obtain, by joint heredity and practice may educate its Will to act in thousands of different ways. Each characteristic mental trait may have its own innings, though not all at once, when there is any opposition or diverse feeling. If a mind has a decided character, good or bad, that character will take the leading control of the Will's activity. The child will act as a child. There will be far less difference between the conduct of children and that of grown people who have been developing their will power in diverse ways.

The Will may be defined as the force of volition, the selective force of a living personal consciousness.

The Personal Will is the voluntary principle active in its consciousness. Will has the selection of all values of every sort; but it is the dependent property of a living authoritative consciousness, and each mind is constitutionally accumulating diversities of personal experiences which more or less dominate the volitions. Every new coöperation with unlike material processes or with other minds, which have acquired a consciousness unlike its own, adds, broadens or confirms its prior experiences. Thus each personal consciousness is constantly increasing.

The Will must act in correspondence with some phase of the immediate personal desire.

In other words, it is the whole personality of the psycho-physical unit which has a practical freedom of choice of values or between values. The actual choosing by the Will is a force process. The Will is mind-decision, and the deciding factor in all desires, and decisive Will can do much in almost any direction.

As a mental determination to desire and choose something outside of itself, there is no limit to the Will. The physical disabilities may prevent the carrying out of the Will's decisions. Matter never wavers one jot or tittle from the square deal in the effort to promote the Will's volitions. The strong Will in a feeble body may eat out its own heart as helpless as a baby, and a weak Will in a strong body may change its decisions oftener than a weather-

cock. A healthy body and mind in harmonious action can do almost anything which the mind persistently undertakes to do. Such minds remove mountains, divide continents and are changing the face of the whole earth. Active matter is ever at the service of active corresponding mind and Will has casting vote.

Each mind is a field of perpetual questioning — shall it be this or that? The character of the mind itself decides the activities of the Will. A low and weak type of character yields to the paltry temptations of the moment, sacrificing the nobler possibilities.

A vain and pig-headed Will can be cultivated at the expense of noble impulses until nothing seems worth while compared with having one's own way, hit or miss; to that temper of mind everything is sure to be a mental and moral jumble. Good sense is essential to a good will. The custom of dividing an indivisible mind into faculties, each with a nearly independent function, then debating whether the Will is wholly independent in itself is an outgrowth of the custom, sacred both to theory and practice of regarding force so exclusively in the abstract. Force is universal in every act and in every motive for action.

One type of mentality has learned to look at everything with microscopic vision as something in itself, which it is, and forgetting that every finite being

and action exists and acts in essential relations, which it does. The larger question is, Has mind a free will? and the still larger one, Is mind wholly a free mind? Not in a correlated universe, must be the answer.

Is anything in a relative world an independent existence? To that last question all answer, no, no. Everything relative has arisen from a previous something. Then why attempt to study things so exclusively as unities? And why doubt that some day a reasonable explanation of all existences will be forthcoming?

Certainly no relative mind can be a wholly independent agent. Does finite mind remember where its life begins? A mere felt desire can hardly be called mind, but even that indicates a personality, for one must have some slight sense of a difference between the selected and the rejected. These first glimmerings of mind are certainly very low down on the scale of life. Even there are Force and Will.

Will, the voluntary action of its mind almost every animal, proves that it has a Will of its own. It defends itself, which shows some sense of self-appreciation; it develops some sort of structural defense and always of a kind adapted both to its own nature and to the nature of surroundings. Its defenses are also adapted to repel the kinds of dangers it is likely to encounter.

The thorns and prickles of the jungle tend to drop

away of their own accord wherever the conditions of a more savage life have been tamed and enemies diminished. Everything is given a fair opportunity in remarkable accord with the extent of its needs. To know it one must know its relationships.

Every creature's self-defense is an exercise of its Will. The battles between animals are the clashing of opposing Wills. The mother's self-forgetfulness in her defense of her children is the dawning of a live social interest, destined to widen till it includes all life. All action is outgrowth from prior action.

But mind without its basis in matter (and both their bases in the absolute mind) without its relations with matter as the executive of this relationship could do nothing, absolutely nothing, by itself alone. In finite life no purely mental act is known or is knowable. I may also add that no purely material act is known or is knowable, for the thought of the Creator is embodied and so illustrated in the structures of Nature's least units that human mind can interpret it by a like process with that of the mental interpretation of any human made machine, by means of its embodied thought correlations.

The mutual dependence of the parts constitutes the whole unit; and they also testify so clearly to the nature of their relationships, literally presenting the facts as all objects present themselves to mental perception, that these meanings can be read by any diligent, intelligent observer. The machine inter-

prets, illustrates the thought of its inventor.

Every organism is a living machine. True, it is so variously related that it is easily misread and no one can claim to have truly perceived its coöperating possibilities.

One important conclusion must be accepted, that each organism considered as a process continuous from birth to death is a process largely carried onward in the interest of the one leading mind which gains its mental development in coöperation with that organism.

Every animal asserts its own individuality. It acts exclusively of and for itself. The internal organs have an admitted living sense of their own, but like all physical service it is handed on to the advantage of the one dominating mind and that mind uses the whole organism for its own advantage.

What do all of the other co-workers gain? We do not know. We do know a great deal about the gain which comes to the one mind, to each mind of every type along the whole winding and dividing roadway from the plant to mankind. The wild animal enjoys his wild, savage life, or his mild, gentle, plant-eating life; alike they pine and deteriorate in captivity. We know that everything has to become acclimated if removed to locations greatly differing from its customary surroundings, and that changed correlations must be established either to its advantage or its disadvantage, and that the process either

way is a functional disturbance. We know that our domestic animals have no severe hardships, except such as are forced upon them by mankind.

We know beyond question that Nature's normal correlations tend to health and happiness, that success depends upon keeping in close alliance with Nature's own adaptations and that excess anywhere of any kind tends to real loss and suffering. Excess even of the very best values breeds penalty, physically, mentally and morally.

Just here we find the indispensable need of bodily help for mind, for everything that lives, and the especial necessity for the meditation of the material correlate to actively help both mind and organism.

Mind with its initiating freedom is a stimulus to material action and it might have been only a disturbing influence to matter's automatic orderliness; if all correlations had not been particularly adapted to prevent complications, perverse mind might work unlimited evil.

Will, as voluntary action of its own mind, may choose whatever the mind consents to choose. So far it is absolutely free, but it can do nothing alone. The body in its most unhealthy condition cannot unsettle its own physical equilibrium. Then in a state of partial bodily dissociation, not of actual unbalance, what could the mind do if it had no Soma with its physical capabilities, ready to carry out the mind's wishes by allying itself to whatever physical

helpers it can find ready to do the best possible things in the interest of the mind? The Soma as the executive impels its material helpers to complete any desirable process. How many things are discovered to have been done to the astonishment of every absent-minded person? Such automatic achievements are in close connection with something which the unoccupied mind would have taken. The physical correlate supplements the psyche and invariably in the direction of the mental intentions, supplementing them.

The two modes are not side by side, are not exchanges, they are sharers in one identical process, the mind acting in modes of feeling, the Soma in modes of motion. Either may take the larger share of the work as the mind does in initiating changes. Between the mind matter correlates it is not as everywhere else, equality of coöperating amounts; it is the simple change of function within the inseparable unit.

Perception, the relations between subject and object, is not a side-to-side process. It acts on one line of process either to or fro; but in perception, quantity of relations is strictly maintained.

The organism, composed of many units, may be more or less dissociated. A partial cleavage may occur almost anywhere. Many rifts may form at the same time. Nothing short of full parting of the connective tissues which make the organism one

working unity, can destroy that unity of coöperation within an organism as a whole.

The mind is indivisible, is essentially unchangeable in substantial quantity while ever increasing in quality of new experiences. No one ever claimed personal identity was not intact, who did not confuse action and the actor, conscious gains with gain of changeless being, the personal entity which is changeless.

Memory is a psycho-physical interaction. There is no organ of memory. We do not know precisely what the relations are between mind and organism in the recall of past events, into repetition, but every repetition is an event of itself. Each revolution of the earth is a new event, so is each recalled memory and the memory is not exactly like the original because circumstances have changed.

It is comforting poetry to claim that we can remake past events into better ones; but it is not good philosophy. Every action must stand for itself. Otherwise geology, astronomy, history of all types, would be falsified. Nature in the past has been too careful in preserving its records to tolerate intermeddling between past and future, and Nature's actual work is all of it in the present, memory included. Process is presentation.

Physical weakness of whatever kind impairs memory. Loss of memory is the first indicative of fail-

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ure from old age, and memory is often at fault, when the other activities are but little if at all impaired.

The explanation is — the beginning of dissociation between those phases of the organism which relates it to memory. When the dissociation extends so far that other activities of mind are involved, so far as mind and organism are directly correlated, the mind can no longer work with perfect integrity in all normal directions. Its failures must depend upon the character of the bodily lesions. The mind may still act with partial sanity, in extreme cases with an entire failure of normal thinking and feeling. The highest function of the organism is coördinated action with the mind, whether the coördination is direct or indirect interaction.

Sleep is a natural provision made for periods of partial rest to all psycho-physical activities. The more active energies of plants and animals alike need rest. They all sleep. Some material activities seem to get tired, the tensions in general seem to be in states of comparative rest. In the sleep of mankind, other things equal, the faculties most used by day rest by night, in general usage mind action in dreams is characteristically nonsensical. The higher faculties are resting in varying degrees.

One's experience is never wholly in the limelight of active consciousness. Somehow and somewhere in the organism, at least ninety-nine-hundredths of our knowledge and experience is kept in peaceful

seclusion until it is needed.

When it is needed we find that it has been safely treasured. Often it is called up by some association, some anecdote, or connection of data, or to supply a present need. The more vivid the characteristic, the more readily it appears, and a name, which is only a representative of a real person or thing, is the most difficult to recall.

All of this mind treasure comes up into consciousness from the subconscious, from near or within the domain of natural sleep. One can sometimes feel that a fact is standing on tiptoe at the door of consciousness eager to come in just before it is quite wanted; it is evidently up and out of its little cradle. But what kind of a cradle? The suggestion is that tension not unlike that which holds action in other substances in apparent rest is holding these mental experiences in quiet rest.

Hypnosis, an abnormal sleep, at the suggestion of the hypnotizer or another, seems able to recall past events of long standing. The subconscious, being the custodian of such data, that is but natural; but the impulse of recall comes, not from the subconscious, but from outside, as usual. Outside suggestion may be expected to help in the cure of bad habits by creating a mental distaste when in a state of mind too feeble to oppose any suggestion. Suggestions impressed upon the Soma or the sleeping mind, when handed on to the waking mind might probably

secure the desired result. Evil suggestion would be alike forceful.

Suggestion is Nature's great educator. It means communicating the vibratory movements which by common consent represent ideas, to the pupil. The pupil translates the words into his own thought. By that method the teacher gives and yet retains the knowledge communicated. Whether it is better to first so weaken the mental state of the pupil that there is little or nothing on hand to resist anything, good or bad suggested, still remains an open question.

Difficult problems solved in sleep, natural or artificial, so far as known, are problems the waking mind has investigated to weariness and after resting in sleep gets vigor enough to solve them perhaps at the moment of waking. Otherwise it is the automatic which carries on the process to its conclusion. Has any truth, any important knowledge of any sort ever been reported as revealed in that state of semi-consciousness, except as supplementing waking thought?

The evidence seems to show that in examples of a divided so-called "personality," memory, not able to unite the experience gained by the one mind in the divided portions of the organism, with restored health, which means return to physical correlation, therefore to mental correlation, memory returns and proves that in reality *mind* never was dissociated. The portions of one experience brought together be-

come proof that they were the experience of the one mind.

The physical share in a corresponding process "split off," the corresponding mode of feeling could not relate themselves in memory until the physical breach was mended.

The material share in all mental-material action must be recognized. A little child playing in the sunshine among the flowers gains health by exercise and breathing fresh air, but he also gets the soft plash of energy sent out by every flower, and beats upon every part of his little frame. When it falls into his eyes he sees the flowers, but the little bare neck, arms and legs get the outfling of health-giving radiations.

Any two passing in the street pass into physical correlations, weak it is true; but real all the same. If anything occurs later to recall the meeting to one of them, the physical image of the other might probably awaken a corresponding consciousness. Both direct correlation between a mind and its Soma and more indirect correlations between the mind and its organism, all of them produce their own proper results; in special cases such results seem marvelous, though they are nothing more than natural consequences to which some striking peculiarity calls special attention.

Attention is the direct handmaid of the Will, and of all other psycho-physical action. They are to-

gether in every act of the Will. The reason, judgment, sense of humor, sense of beauty, every thought, every phase of æsthetic and moral feeling may be lulled into passiveness and indifference; but the attention fixed upon anything which the Will desires, the Will can act.

It follows that both attention and good Will must be centered upon things noble and good, upon things of fitting value under the circumstances, if the right things are to be chosen. *Motives are in the mind.* They are the outgrowths of character. The toys of childhood do not tempt the wise man, because his mature character has outgrown them.

Free Will under the guidance of an honest character, however limited its mental capacities, is one of the best types of the world makers in social life. The same honesty with an added power of any kind is an increasingly excellent world maker. The whole community needs them all. Animal life and the Will of such things as our cows, sheep, horses, and dogs, enliven the modern landscape and are a beautiful example of the fitness of things to all mankind. Our cousins and friends, the trees, apparently almost without Will glorify the whole world by their manifested contentment, symmetry of form, beauty of color and usefulness to everything else that lives. Good Will everywhere is the best of all possible social co-workers, ill will the worst, the most mischievous of them all.

XI

MANKIND AMONG THE WORLD-MAKERS

A LONG step was taken up the ladder of climbing when mankind was given full responsibility for its own conduct. Without mental and moral responsibility, neither good nor evil in the highest sense of those terms could have existed. Bitter as the resulting evils have been the values have been many, many fold greater, and evil has its limits, its impassable barriers.

The outlook into the wrong side of things is not agreeable, yet it may be best to consider its real import before we turn the shield. Certainly nine-tenths of all suffering has been needlessly caused by man.

Real evils are the wrongs done to one's self or to others. The pain and all other phases of suffering are the barriers put up as warnings against repetitions of the wrongdoing, and the wrong intentions whether or not carried on to the end, are the responsible sum and substance of the deed. Intentions may not injure others as deeds can, but evil intentions, hindered in outlet, may drag down one's inmost self to an even deeper degradation. All sin is some form of weak and contemptible meanness.

Theft and robbery of material things, however hard and unjust to the owner of them, is not a robbery of Nature. The theft transfers the goods which it cannot destroy. Neither fire, nor water, nor any process of attempted destruction can destroy the indestructible. It changes their places, modes, forms, properties of all changeable sorts; but the real substances, as changeless entities remain intact.

The most infamous kinds of injury to others arise from sheer injustice, the jealousies, the low crafts that try to undermine another character. Whatever the effect upon the other, it blackens the character of one's own soul so deeply that the scar never will be entirely washed away. What is done, good or evil, is done for eternity to a living being who lives and must live eternally. Repentance removes the guilt, never the stain, never the record.

Nature's care to preserve the ancient forms, structures, footprints and many kindred events, is equally careful in recording human transactions. No past should be, can be, forgotten irrecoverably.

We all write our own histories and the record like all of Nature's happenings holds its place forever in the endless chain of events. Our past may be forgotten, hidden from others, but it remains a page by itself in an open book; perhaps we may close and seal the lid.

A character can redeem itself by repentance, reform, reparation and more, wherever that is possi-

ble; and every sympathetic heart will be eager to help and forgive. The social duty to help all who have been wronged, who have come to us with a bad inheritance, or into a bad environment, is not compulsory; but it is a moral obligation which no one under better conditions can evade. Human liberty must have its own responsibilities and win its own recompense of whatever kind.

We gladly turn now to the brighter side of human achievements. The purposeful adaptation of means to ends, especially in the inventing and making of machines and other structures, has already been noted. A large part of the earth's surface has been covered by cities, villages, gardens and farms. Bridges have spanned the waters and tunnels have bored their great useful holes in the mountains.

All of this has been done by mankind and chiefly by the men of the human race. Men have made and managed the great and small ships, the railroads and the commercial business of the world. No animal of lower growth has mind enough for that class of world making.

Every structure has been put together as a unit of its own kind, unified by its internal adaptations. These internal adaptations all of them have at once specialized the use of its structure and vastly increased its executive possibilities in the one general direction. There has been no exception to the universal law of essential relationship, correlated lim-

itation which unifies the substance correlated, limits its range of action, but increases its relativity and greatly intensifies its special energizing; the resulting outcome has revolutionized the ancient world.

Solomon and Socrates, if their minds have been occupied elsewhere, would now stand in amazement if allowed to look down from some height upon almost any part of the modern world. In structure-building man and the sons of man have proved themselves to be the true sons also of the infinite Creator, for in their degree they have closely followed His creative method. They literally carry on Nature's processes of that class immeasurably faster than inorganic Nature ever has done. In that line they are the crowning effort of Nature itself, a part of all Nature, but on the heights.

Evidently that is the realization of a part of the Creative intention from the beginning. The long process has moved on too regularly, too surely to leave any doubt as to value and efficiency, of the ever-evolving method which has brought all of these mighty changes to their present stage of evolution.

The historical records prove that women were the first inventors of household implements while the men were yet fighting in self-defense and the defense of their women and children.

The duties of motherhood decided the natural division of labor in that dawn of humanity as it does in this its latest culmination. No one can study

such records as we have of the progress of mankind without prejudice and in a spirit of fairness without seeing that the dividing line of sex, which no one can cross from either side, has been the ruling influence in deciding the division of occupations. "Mere man" is the more executive partner.

But the spirit of narrow personal greed which desires to trespass on the rights of others, has interfered here also, working the legitimate lamentable results; yet good and evil have intermingled from first to last.

So long as social morality was still indeterminate, apparently at that time logically, inevitably, women held the balance of power in all social relationships. It was they who were deferred to, looked up to, flattered and bought with gifts. As family and tribe life began, the mother was the queen of her descendants, mainly, descent was reckoned only in the female line. The mother's sons-in-law and grandsons-in-law for generations lived in her tents, did her bidding and her own sons went over to the mother of their wives. A scrappy but fully credited history is emphatic on this point. No well-informed mind presumes to question the facts.

As civilization advanced, property accumulated, life became less roving, more successfully stationary and pastoral, warfare less an occupation, diplomacy began to settle such difficulties as arose between one large family and another. Population had not yet

so far increased that landed property was held by an assured title or in any other way than by conquest and occupation with a warlike hand for defense.

Meantime women became more and more peace loving, home loving, house and children and domestic loving generally. They cooked the food, studied domestic comfort and advantages including tools, using many of them in the field. The men, still the hunters and fighters, still located themselves largely by conquest, as the children of Israel did at a much later date.

Property gradually, inevitably, became a personal acquirement, not willingly surrendered to any except some small share to those who were under the protection of the successful warrior, who commanded his army and located in a fruitful country. That class of domination was an acquirement and a natural change of base, put the stronger, wiser individual men everywhere in the ruler's place. Class privileges, the snobbishness and the vanity of power, had begun to rank the human race according to success or non-success, the success usually attained by some kind of over-reaching one's neighbors. The more warlike were the heroes. Of course women dropped back more and more towards vassalage.

Jealousy, and love alike, dominated; wives and children desired exclusively one's own. When the harem in its different forms, from almost complete exclusion

to veiled faces and similar devices, with defined class privileges and authorized polygamy, then began the serious immoralities which prevail under many unlike disguises until to-day. Might made right. The poorer, weaker classes were recognized as the rightful victims of class privileges. The king could do no wrong. Privilege everywhere was graded down to a fine point and made lawful.

For centuries now, democracy for all, has been slowly winning equality of rights for all, politically and socially. Education and the general increase of intelligence are making it apparent that right conduct for one cannot be essentially wrong for another. Commercial interests have taken a large portion of the formerly womanly occupations out of the home, into the factories, into the working power of machinery and into railroad cars and into monster ocean sailing ships; thence into foreign markets.

Consequently many self-supporting women have been forced into earning a living outside of the home. Also machinery has forced many men to follow the former home-work into the homeless places where it has gone; to become cooks, washers, ironers, scrubbers and sweepers, table waiters, candle or other light makers and sweet meats, pickles, preserves and garment makers. Men have taken every task formerly assigned to women except maternity.

It is found that most things are even better made than formerly. Also that the outside women work-

ers are proportionately successful in what they undertake; yet many of them do not even earn a living wage and there is wrong somewhere still to be righted.

Moreover, the schools take the children out of the mother's care for six or eight of the best hours of the day, and from the age of five or six till the child either goes into business or away to get a higher education, the mother is no longer the only nor even the principal factor in the training of her children. Altogether in the changing complications of modern life the great comparatively leisure classes are women. Also they usually are women of more than average intelligence, multitudes of them now college graduates or the equivalent in moral and intellectual standing and in that desirable condition which is neither poverty nor riches.

Who shall prescribe what they may do in the coming idle hours? Are they fairly entitled to the pursuit of happiness at their own discretion? May they assume a share of all noblest human duties?

One need not pursue this obvious parallel. It is obvious that the duties of motherhood to-day and seventy-five years ago are widely different, and that a woman's strictly feminine duties and privileges do not of innate necessity employ all of the time and energy of a long, increasingly long, life.

Turning back to the past, I find, what seems to me an unconsciously fiendish interpretation of marriage relationship to have culminated in the compara-

tively modern theory that so merged all of the equal and just claims of the wife in those of the husband, that she was literally and legally dead in the eye of the law, was practically merged in her husband. No other human being, no slave was ever so learnedly, so officially, so deliberately put into the keeping of any other master. Dead in Law; she had neither legal voice, legal right, nor legal life.

Did the law mean that? Oh, no! The two-made-one, love would smooth everything. Had those law-makers any knowledge of human nature, any knowledge of the probable effects, not of a brief authority; but of authority for a life time? Doubtless, there were ideal marriages. Some were unspeakably hideous.

And let us thank God, sometimes love did soften a multitude of things, even to the hurts of taunts and brickbats.

As a woman whose husband scorned the idea of an obedient wife and did loyal service, in teaching human equality of rights and privileges, I will never give in my adherence to an exclusively male-made and a male-administered government in family, in church or in state. I, who lived and saw the evils of that awful dispensation, and early protested with heart and voice and still protest.

Mankind as social world-builders must have equal responsibilities, equal privileges, equal duties, and, so far as government can give it, equal opportunities.

Woman has been the more innocent, but she has not been the greater sufferer in this misinterpreted marriage relation. The faults which her age-long, mental supposed inferiority has engendered are petty in comparison with those passions engendered by an almost uncontrolled, almost approved, license allotted to manhood.

Cause has never withheld its own legitimate results. Women's future part in civil, religious, society and domestic world-making remains to unfold itself. A plant, its growth checked by darkness and dryness, springs into new life. As the mind has blindly accused the helpless body as the source of almost all temptations which itself has produced, so unreasoningly it has depreciated the intelligence of womanhood.

But the ongoing of process in spite of everything has brought us to a crisis of astonished eye opening? We shall see. The so-called feminine traits are becoming the most admired characteristics of poets, artists, religious and literary teachers and authors, musicians, Nature students and all of the more refined interests and occupations. Has even war possibly received its death blow? Is the present needless greedy, widely devastating turmoil but little more than the last struggles of a discredited method of settling national difficulties? The brotherhood of nations as of individuals is becoming a practical doctrine among the most statesmanlike

moulders of public opinion.

Let us look at some of the more delicate methods of human achievement.

Language, the mode of communication between ourselves and others, had its beginning far down in organic life. It became intelligent by gesture, voice, drawings, writing, and printing, in all of the communication between mankind. At each of these stages just indicated is gained an immense advance of conventional agreement about the meanings of the symbols which represent the feelings indicated, and an equally broadened outreach of the emotions and thoughts communicated.

Like every other growth, language steadily represents the growth of intelligence in all of its varieties of conscious feeling.

The totem poles of the Indians, Egyptian hieroglyphics, papyrus writing, printing, publishing, point alike to the state of the producers and the receivers of that conventional mode of thought transference. The method of the transference involves a series of motions and representations physical in kind.

Language is emphatically psycho-physical at every stage. The entire process of communication of every kind is mental and material jointly from first to last. Helpful motion, by common acquiescence, represents the feeling committed to it; and the receiver retranslates the motion into feeling into his or

her own consciousness. The process runs along one process from beginning to end of that phase of ongoing. Of course the feeling communicated produces its result and the chain of process still moves onward. As we have already found, both motion and emotion act in coöperating pulses or waves, visible or invisible.

Any group of words in a related statement, however carefully the words themselves have been defined, may produce shades of difference in the thoughts of different minds, because the meaning of the context can be differently translated, some terms apparently modifying other terms in a different way, so that much depends upon the point of view and the degree of intelligence in common between the maker of the phrase and the user of it.

At the best from these causes language does not perfectly determine the actual consciousness on either side.

No representation can be expected perfectly to reproduce the reality. The simple name of a person or thing perhaps comes nearer to its entity than any other symbol. Everything must have a name or some symbol to represent it in its absence, otherwise all communications regarding it would be impossible except when in its immediate presence. Some deaf and dumb persons have special gestures to represent their different friends. All symbols are conventional, accepted by mutual agreement. They never

become actual objects in Nature except as symbols. If dumb persons have special gestures to represent thought, their actions being wholly natural work on the same principle of accurateness as all other correlations. Human mind-produced products, Nature adopts as her own.

All representatives of life and mind represent the freedom, hence the uncertainty, of action which pertains to life and more especially to mind with its possible perversities.

Modes of motion equally must have their symbols or names — imperatively! the necessity for motion representation, if there is to be either a personal comprehension or a communication in regard to them, is as much greater than the necessity for mental symbols as motions, the direct types of extensiveness, are extensively greater than the mind-matter-unit which can only take an individual part in those movements with which its own Soma is correlated. Neither can the Soma take up any work in which its awakened mind has not some share.

There are millions and trillions of simultaneous motions. There are but few active processes in which any one mind-matter-unit is an immediate participant.

The two great terms, mind and matter, each of them represents uncounted numbers, but in extensiveness and its normal modes and psycho-physical normal modes, here, on the earth for instance, there

is the numerical difference in number of what may be called an infinity of simultaneous motions and perhaps some dozens of hundreds or millions of simultaneous psycho-physical correlated changes. One mind can direct myriads of motions, bending them to its own purpose; psycho-physical changes vastly more than make up in quality what they lack in quantity. They are the cream of the curds, the flavor of everything; the soul of the immense partnership, the motive in all action, the inspiration and the initiative of an evolution which far transcends all automatic achievements, the goal which by far is destined to transcend and already has transcended all modes of many sided automatic evolution. Long physically evolved, the Psycho-physical has already gone beyond and higher than automatic world building — (which is motion world building) ever reached or is designed to reach.

Each personal mind makes its own intensive records, the Soma its own extensive records; but they are as truly one as the meaning of a word is in the aim of a word, its inmost spirit; and embodied thoughts and feelings are the only effective values in all languages.

The mental share of work in every process in which mind takes part is the vital principle in that process everywhere and with no exceptions. A universe without mind to produce and minds to appreciate it would be meaningless, valueless.

Each small, personal, mental-material record merges itself in the universal processes of ongoing, but its thread of influence runs ever onward.

In comparison with the millions of co-workers in its organism this wonderful little mind unit is less than the smallest pebble in a mountain. Its indirect influence is as that same pebble to the universe itself. Potentially every other unit in organisms and universe may inherit the like vital influence still latent, waiting the unknown future, but may we not fairly infer that as the physical world builders have actually made the physical universe that whether they do or do not develop minds in correlation with their physical powers that the vast physical magnificence will not be lessened either in extensiveness or in working activities.

If Nature's least units all of them are either actual or possible mind-matter units, is it not probable that forever they will continue to be either actual or possible mind-matter unities and that the priceless beauty and inspiration of material Nature will never be lost. Matter has no discomforts.

Is it possible to clearly distinguish between differences in relative substances, mental and material, and also between the processes of those substances? Clear statements are never easy to make and words cannot make any subject more simple or comprehensible than the complexities of the conditions will allow. Yet there are grand divisions in Nature

which present themselves too imperatively to be ignored.

Arithmetic is the abstract science of the relations of numbers, real or ideal. Geometry is the science of the relations of forms, real or ideal. Logic is the science of the relations of words, of languages, and of the meaning enfolded in language, also real or ideal. These several sciences are divisions of one class. They can all be treated abstractly.

They are sciences of the relations, which are constitutionally inherent in each structure unit of Nature. In other words, they are sciences which treat of the changeless relations of changeless relative beings.

They are the sciences of the unchanging relationships in relative being.

These persisting relationships have no direct relations either with the extensive or the intensive, that is either with space or time. Every like form has like relationships, and always has had them, whether its size is large or small, whether the reality of these relationships was first demonstrated by Euclid or is demonstrated to-day in every class of school children studying Geometry. The smallest triangle has as many angles as the largest one, whether actual or only ideal. The three angles equal exactly two right angles. The circle of a finger ring is constructed by the same principle as the idea of the universe, if we can imagine the universe to be circular.

Arithmetic and algebra by a like principle unite, divide, transfer amounts, if represented by x, z, and y for shortening or otherwise; the process is essentially the same for ages old mighty worlds or to-day's new laid eggs.

That is, Nature's least units are each one internally and changelessly correlatedly constructed.

Language is a human device, a convenience obtained by attaching as nearly as possible special meanings to special words, but as no two minds have exactly identical feelings all communications between them may be more or less exact. Like man-made machines, it is try and try again with added improvements. All the same, when premises are agreed upon, logical reasoning and its conclusions are undisputed. All abstract reasoning is logical if correctly related.

Force, though not a free entity, is an absolute property, a total that can no more be added to than its substance can. It is unthinkable that either can be created. We can form no conception of either as being made of nothing or by nothing, and we can appreciate and imitate the processes that produce their modifications.

Wherever mind-finite takes part in any process, there arises a definite uncertainty as to the results, definite because the mind, free positively within its own domain, yet must work in correlation with matter; and matter never gives or takes except by fair measurable exchanges of modes. At the point where

mind-initiative is taken up for completion by matter, there mental control ceases and matter completes the process. If mind acts upon matter, matter reacts.

Liberty is, can be, under no legal restraint of "thou shalt not," but it is under the checking restraint of the moral law "thou oughtest not," and "if thou doest it the perilous natural causes will irrevocably follow with undesirable results."

With the perversity of freedom misused, arises the difficulty which so far has prevented the full systematizing of an abstract science of forces. Some day may arise a genius who will see just how to accomplish even that very desirable task. In practice it is already so nearly a completed science, that many onlooking minds in theory have dropped out the substance in which every mode of force inheres by exalting force itself as the sole and only entity. In practice that theory has never succeeded. Force is not an abstract principle; as changeless quantity it may be treated as such.

What self-direction has force? When or how was any mode of force ever separated from some corresponding mode of either matter or mind or both acting in unity?

Wireless telegraphy erects its sending and receiving stations, and if the intangible ether transmits messages, it must be material, because in stormy weather, high winds and waves moving in one direc-

tion so help the ether that it can carry long messages from place of starting to place of receiving in that direction, when it cannot transmit like messages in the opposite direction till the opposing storm has quieted.

Whenever by any process one mode of force is transformed into some other mode, invariably essential substance helps in producing transfer in kind. Friction produces heat. Heat changes water into steam and vapor, absence of heat changes water into ice. Electricity can be tamed, polarized, directed, but the process is always helped out by mechanics. A ball may roll down hill but not up hill unless substance or force gives it a shove. Some real hand or machine must send the ball at one angle against the wall for the wall to deflect to a corresponding angle. All reaction is mathematically reciprocal, and every substance is adapted to send the rejected rays of light at a preadjusted mathematical angle. The mind can feel a hurt in any part of a normal body, felt where the hurt is located, but paralysis or an anæsthetic can shut off the mind from any diseased place, and the mind has no feeling of the pain.

The eye may even enable the mind to see the painfully swollen foot. That may excite disgust, pity or any feeling corresponding to the disease; but it cannot produce the normal pain. The sensation will be more like that of looking at the ailing foot of another person.

If facts like these do not prove the unbroken line of correlation between substance and its force the entity of substance, between force and its modes of activity, and between all action and its actor, it only remains to appeal to the personal experiences of all minds with no prepossessions.

The child, the average man and woman and every theorist in practice, believes in the reality of substance, of force, and in the reality of all action and changes, however brief their manifestations.

Time is the symbol, the representing name that simplifies all changes. All changes of all kinds pertain to their own substances and its forces. Changes are produced by the interactivities of essential things. As these activities in ongoing process occur in endless progressive series, both simultaneously and in successions, nothing could be done with them, no clear idea could be gained about them, no communication could be made concerning them except by agreeing upon a representative name that should include all changes, all process; all action, every kind of ongoing under one name. That name is time. The term Time is used also as a comparative measure of changes. In that sense the measure is the merely relative, not an essential changeless relation.

The changes and their normal durations are realities arising in normal series of ongoing, but time-measuring rarely exactly coincides with the actual facts. Much mental calculation is required to pro-

duce that result necessary in all exact calculation.

The clocks invented to measure time, lengths of process in duration, can measure only approximately. The pendulum swing is not the same at the equator and poles because gravitative pull is less at the equator. Time by clock changes with every foot eastward or westward from any one given point. Nature adjusts itself perfectly so that all changes are definitely working in corresponding periods of duration. Human intelligence cannot achieve that marvel. Incidents which we often treat as arising in the same periods of time are more or less in different time periods.

The time measure as utilized in rough ways is essential. We could have no appreciation in common without it as to the successions of events. Readjusting time differences would be a nuisance if often repeated.

We adopt the time symbol as we adopt other terms as nearly as possible by a standard alike for all places. In all such or similar cases Nature is exact. We and our symbols are inexact.

From causes of like kinds, relations produced by infinite wisdom and relations devised in explanation by finite minds, time very generally has come to be considered a real entity, or if not that, at least a real relation; but how can it be anything more than a representation of the actual relations of ongoing processes, many of which occur simultaneously?

Time has no substance, no properties. What is its form? What is it as an isolated idea? There are only two kinds of real things, real existences. There are real substances (mental or material) and the ever-recurring, force-produced activities of those substances.

Now, is time either a substance or an action? It is neither. I claim without qualification that every action must pertain to an essential actor, every change must be a change of some essential existence. Activity is the energizing of all Being, the living function of all life, the conscious force-action of all mind; but there could be from the very nature of the supposition no possibility of force, or acting energy of any kind, existing in pure isolation.

Think of sweetness as something in and of itself. Sweetness is a real quality; but is a quality of some real substance which is sweet, which has sweetness for one of its qualities. Sweetness can be recognized as a class of real qualities of real things, as honey, sugar, sweet apples. Think of anyone's attempting to taste sweetness without something else as a basis for this sweet property. Think then of any motion acting of and by itself alone. The thought is impossible. Not even a nightmare could invent it. Or try to realize a thought as projecting itself and standing alone without the parentage of a conscious thinking mind. What we cannot think and cannot do, it is certainly unreasonable to teach or to be-

lieve.

But force in all of its phases is precisely such a property. The generic difference is, that force pertains as a property to all substances absolute and relative, and to the relative in all of its varieties; that is, force is an ever-persisting property of all substances which also persist; and force is a property of all relative modes of substance which in relative being may and do change in forms and modes of existing and in the correlated mode of acting force, while neither the substance nor the force have increased or diminished in amount of being or of force. Honey and sugar and sweet apples are sweet; but there would be no sweetness if force did not act to produce the sweetness. There would be no taste of sweetness if force did not act to produce the sense of taste and act also in stimulating the eater to enjoy the sweet flavor.

In other words, force is more than the universal producing factor of correlated activities; it is also the absolute factor in absolute activities. So far as is known it is the sole and only action in all things great and small and in all processes of all varieties and the producer of all temporary properties, as of sugar, honey, and kindred temporary modes of correlated being. It is only the primary, the God-created, least units of beings, which remain one and indivisible. All other masses, including all organisms, as aggregates of units, are sooner or later separated

when circumstances lead to that result.

On the same principle all modes of matter are correlated motions and all material changes are force-produced motions. Though force is itself a property of being, not an entity which might exist by itself independently; yet without Force-absolute there could be neither life nor mind in existence, because though force is neither life nor mind it produces the action both in life and mind absolute and relative. Life and mind in turn direct the action of force and guide its ongoing as they choose or desire.

In other words force and other properties of mind act together in concert — mind as mind doing the mind work, and force as force impelling them into action.

Something like this coöperates in all growth, in the aggregation of inorganic masses and in the growth of organisms. Properties, which are not force exclusively, but substance also, are earth, water, air, etc., but there is force in all of these form- and property-producing processes. Who can attempt to imagine the exact method of absolute changes? It is only when the Absolute produces relativity that from the nature of the product we must suppose that the process was that of correlation.

But time itself is not a correlation. As a measure of processes which act in successions, and which also act and react in local periods of duration, although every pulse or wave makes its little move from first

to last in ever-present duration, that is, in ever-present time, time èven as a measure is not correlated; it is only a single comparing representative of active correlations. A foot in length can be made to measure a yard in length, but the foot cannot do the real work of measuring. Intelligence is solely responsible for that and for all kinds of comparative processes, although the foot in real length as a measure it does help in the process.

Time is the algebraic word that enables us to realize in any degree this astonishing complexity of our own existence and its processes.

A process of analysis may also help in explaining that the term space is also a symbol representing actual extensions and their complicated relationships. One name represents a multitude.

Places are actual locations in actual extension, that is, in the real material extensiveness which is a measurable quantity. New York is located at a fixed distance from Boston, at larger distances from San Francisco and Paris.

Relative distances are real relations of real material. Our places as organisms and of each one of as a mind-matter unit in that organism, are relative places. We occupy that location to the exclusion of all others. Others may be within reach of our hands, but their bodies and ours have distinct places, corresponding to one individual organic form. If we are all in Fifth Avenue, they move to Harlem and

I to New Jersey, we all carry our places with us. The relation of those places has changed as we changed locations. Our places are ours wherever we are, because organisms are real extensions and so are places. So is atmosphere and we live in the air and breathe the air; also the firm earth supports us wherever we may be.

But do we carry a section of space with us when we move about? Is it space itself which has all of those relationships? Certainly not; they are the relations of matter and of the mental-material unit in the organism which initiated and directed the changes. No one can point to one real relation nor even to an ideal relation in space. Each one is the center of his own world and every thread of interaction draws towards it as to any focus.

Emotions are even more imperative than reasoning and thinking. It is when emotions learn to flow outwards from one's self that they move the world, inspiring it with a kindred feeling of fraternity and good will. To be shut up in the narrow case if one personality stifles every noble sentiment and it gathers mildew and blight as its legitimate recompense. Nature is never cheated. They who live to achieve only in their own behalf, because of the entire constitution of Nature, will find themselves some day to have been gathering tares instead of the wheat, for Nature holds in even balance the personal and the social.

The worship of Infinite Goodness and Wisdom must be gratitude deeper than words, appreciation which can forget itself in sweet and solemn appreciation of all, that has been bestowed upon all. The faintest perception of this is inspiring. The sympathy of others and sympathy for others is the best possible compensation for all of life's ills.

Humanity by its inhumanity has caused most of the evils which it has been made to suffer as a natural outgrowth, warning against the wrongs done. On the other hand, it is humanity which has wrought the improvements, the accelerations of much that is best in the work of the automata and their structurally engendered processes. Catastrophes have quickened human comprehension of causes and impelled to a vigorous application of available remedies.

The fraternizing of nations is in its earlier stages, and everything broadly humane seems tending to a more and more rapid increase. When justice replaces both national and personal inordinate self-seeking and business strives after equity in all of its transactions, it finds it.

A foot in length is an agreed-upon name for an exact distance, it is a well-understood, a conventional term, a representative of an exact real extent.

Time represents real motions of all varieties. All motions do actually take place in Duration, which is ever-present time; but in relative being they occur

in succession of action and because they do so arise, time is made to represent their progressions. As already insisted on, substance and its force produce all change, past and future, while — as experience proves beyond reasonable question — they all occur in the ever-present duration.

Each individual consciousness is a personal world of correlations, past and present, and the future will add its endless tribute of feelings all in the eternal now.

Space is the name which represents all extensions. It can be nothing else and nothing more. The effort to form a concept of infinite space is as impossible as is the effort to form full conception of infinite Ever-existence. All action of every kind arises in present time, the eternal now, but because it arises in an endless series we must estimate it in its connections, its relationships, some of which are past, present and future. Space may represent immediate action with relations that reach out in all directions, and enfold all processes. Memory brings everything that need be recalled back into present personal consciousness.

The value of mankind as world makers is optional with mankind. The value of each one of us is at our own option, for choice is as personal as personality itself. Hereditary trend, good or bad, may be outlived and opportunity sooner or later is sure to come whether sought for, worked for, and improved

or otherwise; for soon mankind will take up social, mental and moral world making with increasing good will, and mighty effectiveness. And personal self-molding and improving will by no means be forgotten.

We are already being taught that we must all stand or fall together. Are we not already in the early dawn of a new era of ethic and æsthetic world making?

XII

GOD THE SUPREME ARCHITECT

THAT the Creator is the sole Author of the universe who can doubt? One Mind infinite in wisdom, infinite in executiveness, devised all of the vast systems of worlds to their least detail; there seems to be no reasonable shade of doubt. But was God the Architect who planned and supervises, but in a practical sense not the masons, the carpenters; and is He the actual decorator of to-day?

To drop the figurative illustration, on the earth at least, is it not mankind who are now carrying on most of the progress in things and methods to suit themselves? Men make the cities, the country homes, churches, school houses, bridges, roads, mountain tunnels. Men built the ships and control them, the flying machines and use them, at their own risk; they it is who are changing the crabbed fruits into delicious luxuries, the jungles into gardens. In short, mankind is the present-day promoter of progress, or supposed progress, in all directions.

Science has persistently insisted that matter in every field of investigation was positively acting itself, is itself still putting together masses and pulling them apart. The worlds are moved by means

of material interactivities and so are all lesser bodies animate and inanimate. Every mind feels for itself, does its own thinking and its own acting with the coöperation of its organism and environment.

The chief disagreement between religion and science has been along these lines, the working activities and responsibilities of the Creator and the activities and responsibilities, of things created especially including mankind. Men do work, do make their own characters and have their own responsibilities for conduct and opinions; they suffer and enjoy.

For some time past public opinion has been becoming more and more unsettled, afloat without an efficient rudder. Old foundations are shaken. Props which once upheld structures that formerly seemed more stable than the mountains which do get washed away by the rains and the fall of rocks rolled down by gravity; and some of the most beloved old mental constructions are tottering and now seem threatening to fall. The many, sincere or otherwise, deliberately shut their eyes, apparently either afraid or too perverse to open them. Those who feel most helpless and ignorant turn away to lesser interests, trying to content themselves by declaring, nobody knows, no one can know. The good of all classes try to put the best face possible upon everything. The wisest and best try to teach what they do believe and to push everything about which they are somewhat doubtful into the shadows which will partially con-

ceal the doubts. This may be good or bad policy as it is more or less sincerely honest in intention.

Good-works and helping the more helpless to help themselves, is useful and practical; but it does not face the more and more imperative question of, where are we drifting? Is there any truth so broad, so firmly grounded that we can rest upon it, do our own work and follow our destinies in confidence and hope, even in real and full assurance?

The present treatise is the culmination of a life-long attempt to find as far as possible a personally satisfactory answer to these inquiries; but what may satisfy one may be shown to have many flaws that must discredit it for others. All the same, such truth as one believes should be more than freely given to all who can receive it.

To me it seems clear that religion, science and philosophy can all stand together on the same platform, if they can come to an agreement about the real work of the Creator and the appointed and actual work of the created individuals whether with or without intelligent personal consciousness. Force and its innate push to action is the heritage of all substance, and all finite substance is individual and has its own work; but feeling with its intensiveness of changing kinds and degrees, adds corresponding impulse to action.

The Absolute is the architect, plan and method are His. He is supervisor, sustainer, helper, in-

spirer, giver of everything, and doing His own vast work but not the builder — except of the countless primary units. He gives to each its own work and the outgrowing results good or bad.

Being, Existence in itself, all sufficient and all comprehensive in itself, is the fundamental marvel; everything else its derivative. This would be incredible if reason and personal experience did not assure one of its unqualified certainty.

Relative existence is absolute existence made relative by internal narrowing adaptations based upon absolute substance; all of its methods and its inter-activities are conditioned to arise in relations.

Relative beings are all of them conditioned as individual; indivisible, mechanically constructed by mechanical laws in a perfect equilibrium of all parts with a necessitated equilibrium of all processes actual or possible.

Creation is the production, the conditioning of the host of such units and the possible methods in accord with which they are or might be enabled to coöperate, for all finite activities; and each unit, structurally self-balanced within itself; but its internal actions alone cannot increase modes of force.

Opposed motions are the balancing forces of Nature; hence they as the primary coöperators, began the making of the correlated universe carrying it onward until the inorganic was prepared for organization, and the dawning of life.

Instead of doing all the work of the universe himself, God has made work the gateway to all progress for his children. He has given them of his own Being and of the properties of his own being, duration and force; and force produces every phase of increase good or bad, directed automatically or by a conscious mind.

The discovered progressive stereotyped records of the unnumbered past ages are interpreted in essentially the same way to the unanimous approval of investigators — all agreeing that there has been a steady advancement in the process of universe making. Obviously the process is still onward more rapidly than ever.

Humanity is now doing the more conspicuous work successfully, with increasing intelligence, courage and success, even eagerly accepting the responsibility of changing the entire face of things, physically, intellectually, ethically, æsthetically, personally and socially. Life and mind are the really most incredible facts to be accounted for, approved and ennobled, learning to take a rightful place with dignity and self-restraint.

Every new machine, each new invention and achievement is incontestably a diminutive imitation of the vast mechanical universe, so far as it reaches in every real characteristic; it is a fairly faithful little copy of an inconceivably mighty structure because, like a child's drawing-book, its outlines have

been predetermined and the right kind of work indicated. Why should not the Ever-existing, efficient Unity have devised a method of deriving kindred lesser individualities in multitudes? If this was done the great work would probably begin with the lowest grade of existence and with effective limitations and progressive guidance.

Friction is the normal generator of heat; heat being a "mode of motion" easily obtained from the coarser modes of friction, primary units of conditioned beings (presumably by contact or its equivalent) might, with their mutual attractions and repulsions, call into action in the unbroken ranks of process, the heat and light of the suns and of matter in general. Thence onward the rhythmic ongoing in orderly process would await the coming of finite minds, and their directive intervention. Even human competing traffic carries the Olive branch in its left hand, the right held out — though still grudgingly — to help the more helpless. Even tainted money is getting a rebirth in social service. Everything moves. Though now in the clutch of the most destructive of all international brutalities the last word of already dying war is — reciprocity.

Which kind men deliberately choose is left to their own decision, and natural results follow all action unremittedly.

With social justice and love, added to personal temperance and self-restraint, all temporary goods

may give to anyone health, comfort and enjoyment; but all permanent higher values must come as the result of one's efforts or they cannot be obtained. Mental values are too personal to be obtained wholly by proxy. One's own motives and conduct are as personal, as exclusive, as his own personality. The nature of Nature demands it.

The Mind which created, doubtless might uncreate, might annihilate every finite being and again stand alone, the universe blotted out as a child wipes off the figures from the slate.

But why? Could it be better even for infinity to stand alone forever? Surely there are interests in this wonderful universe which must be an absorbing attraction to a mind which can know itself as the Author and preserver of these wisdom devised outworking and onworking ever increasing interactivities. As matter evolves complexity and variety in structures, minds gain correspondingly in conscious living experience. Truth and the wider, clearer knowledge of truth must be an ever-coöperating alliance. Then think of the sweetness of character which has been developed even here on the earth, of the splendid deeds and the mental attainments of some of our greatest and best. And think of the future's unknown possibilities. Better to live forever alone? Oh, no; this universe was made for a sublime purpose. It can never, never be destroyed. It is in and of the everlasting.

TO THE READER

BOOKS become known through their friends. If you take a friendly interest in this book, if it has pleased you or helped you or given you amusement, will you not tell of it to others who may also find pleasure or instruction in its reading? Thus you will be giving double pleasure: to the author whose audience you enlarge; to the new reader for having brought to his attention something of genuine merit. ¶It is only in this way that a good book can secure the circulation it ...rves.